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T. H. Emmet Jr. -

Vol. I.









ERUPTION OF NAMLAGIRA

# IN THE HEART OF AFRICA

BY  
THE DUKE ADOLPHUS FREDERICK  
OF MECKLENBURG

TRANSLATED BY  
G. E. MABERLY-OPPLER

WITH MAPS AND NUMEROUS ILLUSTRATIONS

CASSELL AND COMPANY, LTD.  
London, New York, Toronto and Melbourne  
1910

4-5112-1-1

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THE DUKE ADOLPHUS FREDERICK OF MECKLENBURG



# IN THE HEART OF AFRICA

## CHAPTER I

### PREPARATIONS FOR THE JOURNEY

I WAS first induced to visit Africa in 1902. During the month of March that year I was in Ceylon, where I had been hunting in the neighbourhood of Anaradjapura. Whilst there I received an invitation from Lord Curzon, the then Viceroy of India, asking me to accompany him on a tiger hunt or two, and I was very nearly unfaithful to my plan of having a look at Africa. However, the land which I knew from books, and the history of whose discovery and development had possessed my mind from earliest youth up, exercised an unconquerable fascination over me. I am thankful to-day that I did not allow myself to be led away by the tempting offer and that, abandoning India, I threw in my lot with Africa.

After visiting Daressalam and the great settlements in East and West Usambara, and whilst on a hunting tour in the Kilwa hinterland which I had embarked upon in company with the Governor, Mr. Rhode, District Judge, and Count von Götzen, I learnt to know, and became thoroughly imbued with, the spirit and charm of African camp life.

In the year 1904 a plan matured for a further journey to the land of my desire, but even at that period my ambitions soared higher than a mere hunting and pleasure trip. I hoped to connect a scientific mission with my new expedition, and acting on the advice of the authorities of the Berlin Zoological Museum, I decided in favour of the eastern shores of Lake Victoria, a

territory which had hitherto contributed but little of zoological interest to the national museums.

Accompanied by Count Günther Pfeil and Captain von Jena, together with Laboratory Director Knuth and my servant, I made my way to Mombasa via Naples, and from there by the English railway to Lake Victoria. After an exciting journey across the lake, to an accompaniment of thunderstorms and gales, in a fragile English steam-launch, which offered but little resistance to the elements, we arrived at the small military outpost of Schirati, where we were heartily welcomed by the commander, Captain Göring. From there we broke off in the direction of Ikoma, and after roaming for months through the district watered by the Rivers Orangi and Boledi, which abounded in game and had scarcely been trodden by man, we felt a greater interest than ever in this protectorate of ours.

It was here that I first met the energetic leader of my last expedition, Lieutenant von Wiese and Kaiserswaldau, who had been entrusted with the very responsible duty of defending the outpost station of Olgoss against the attacks of the Masai.

In conjunction with him, in Berlin, a year later, I planned the scheme of the expedition which I have endeavoured to describe in the following chapters and which should be of some value for the systematic and scientific exploration of unknown stretches of country, a scheme which, certainly, was subjected to a good many variations, until it assumed its final and concrete shape.

The original intention of reaching the source of the Nile from Lake Tschad presented so many difficulties that it had to be abandoned as impracticable. Instead, after prolonged consultation with our most famous specialists and scientists, Professors Brauer, Matschie, von Luschau, Waldener, Engler and Branca, I determined to march via Lake Victoria to Ruanda, and also to visit the district between Lake Kiwu and Lake Albert, whence, travelling westwards, we should reach the basins of the Rivers Ituri-Aruwimi and Uelle.

When first I made my plans known to the various scientific

bodies, I was not surprised to meet with opposition at all points. After weeks of unremitting effort, however, the possibility of the successful execution of my design increased daily.

After the Colonial Office, through the intervention of Privy Councillor Hans Meyer of Leipzig and the praiseworthy efforts of the Geographical Commission for the Exploration of Protectorates, were finally assured of the real seriousness of my aims, the large sum of money absolutely indispensable for such an undertaking was raised by dint of ceaseless endeavour. The Colonial Office set the example, and, aided by friendly committees, especially at Leipzig, Cologne, Hanover, Dresden and Berlin, it became possible to fix the start of the expedition early in 1907. I was able, therefore, to communicate the good news and the names of those who were to take part in the expedition to Lieutenant von Wiese, who had in the meantime returned to East Africa and without demur had been granted two years' furlough so that he might join the party.

Lieutenant Weiss applied for the post of topographer and mathematician; in fact, he seemed predestined for it, as he had been entrusted with the survey work during the great expedition of 1902-1905 in tropical Africa, which laid down the boundaries between the German and the English protectorates.

From the Geographical and Palæontological Institute at the Berlin University I managed to secure Herr Egon Fr. Kirschstein, to whom was allotted the special task of collating material respecting the Virunga volcanic groups of Kiwu. The Botanical Institute sent me Dr. Mildbraed, the Zoological Institute Dr. Schubotz, and the Royal Ethnological Museum appointed Dr. Czekanowski to join the expedition. As bacteriologist and doctor I received Dr. von Raven from the Institute for Infectious Diseases. The party was completed by my servant Weidemann, who had twice before accompanied me to the dark regions of the earth, and by Non-commissioned Officer Czechatka of the East African Colonial Force, who had also received furlough for the purpose of accompanying me.

Thanks to the courtesy of the Colonial Force, thirty-five

Askari were assigned to me on the assumption that they quitted the force in order to be enlisted in the troops of the expedition under similar conditions. In order to distinguish this body of men from the active colonial force and to convey them without let or hindrance to the Congo State, the head-dress ordinarily used by that body—the *tarbouche* with the company number—was taken from them and was substituted by a red fez. Khaki-coloured trousers were issued instead of the usual blue ones, and the men in charge were distinguished by blue, yellow, and red badges. Only the ordinary arms were carried, but in addition to the regulation ammunition-pouches cartridge-belts were slung across the body.

These Askari were selected by Lieutenant von Wiese from the Daressalam Company. Besides these, he recruited a number of "boys," cooks, and general helpers.

On the 21st of April Wiese left Daressalam for Mombasa with the military escort and the folk above mentioned. On his arrival he entered into negotiations for the transport of the goods expected from Europe in the beginning of May to Lake Victoria. These goods consisted for the main part of scientific instruments and apparatus, drugs and equipments of first-class quality, as well as cases of stores for the Europeans. The commissariat was apportioned in such a way that for every month each European received as his share one box of flour for baking bread, one box of preserved foods, and one containing mineral waters, etc. The various articles of barter required for different districts, comprising stuffs, pearls, caps, bright-coloured cloths, copper wire, knives, mirrors, and the woollen blankets intended for the colder districts, were purchased later on by Wiese.

#### I. SCIENTIFIC APPARATUS

##### (a) *Geological*—

LOADS

One large universal instrument for astronomical and geodetical observations ... ..	2
One photographic theodolite with two camera stands ...	2

# Preparations for the Journey

5

## LOADS

One small universal instrument	...	...	...	...	1
Two surveyor's tables with telescopic graphometres and stands	...	...	...	...	2
Compass, square and stands	...	...	...	...	1
One standard compass	...	...	...	...	2
One deviation magnetometer	...	...	...	...	1
Two stands for magnetic instruments	...	...	...	...	1
Two boiling thermometers, barometer, two reserve compasses, two large and six small chronometers	...	...	...	...	2
Drawing-paper and materials	...	...	...	...	1
Scientific books, tables and charts	...	...	...	...	2
One large reserve universal instrument	...	...	...	...	2

### (b) Geological—

Hammers, blowpipe apparatus, gold-working dishes, etc.	10
--	----

### (c) Zoological—

400 litres alcohol	...	...	...	...	...	20
Arsenical soap for preparing skins	...	...	...	...	...	5
Alum for dressing hides	...	...	...	...	...	10
Potato-flour for cleaning skins	...	...	...	...	...	3
Traps for beasts of prey	...	...	...	...	...	2
Tin-plate and glass vessels, nets, linen, boxes for insects, preparing instruments, etc.	...	...	...	...	...	23

### (d) Botanical—

Condensing lenses, tin boxes, linen bags, naphthalene, packing thread, etc.	...	...	...	...	...	6
Thirty pieces trellis pressing, tin-plate fittings, alcohol, indiarubber plaster for sealing up chests	...	...	...	...	...	3
Four climbing-irons	...	...	...	...	...	1
10,000 sheets paper, 1,000 sheets millboard for botanical collections, packed in twenty-four tin-lined cases	...	...	...	...	...	26

### (e) Ethnological—

Plaster of Paris	...	...	...	...	...	4
Phonograph and plates, etc.	...	...	...	...	...	3
Books, paper, etc.	...	...	...	...	...	2

(f) *Medicines, etc.*—

LOADS

Drugs, bandages, instruments, microscope, test-tubes, invalid-hammock, etc. ... ..	40
---	----

## II. ARTICLES OF BARTER

Assorted beads ... ..	45
Various stuffs ... ..	12
Miscellaneous ... ..	1
Kanga (native cloth) ... ..	10
American " notions " ... ..	19
Kaniki ... ..	3
Woollen blankets ... ..	10
Pearls ... ..	17
Wire ... ..	4
Salt ... ..	8

## III. GENERAL LOADS

Traps for wild animals ... ..	6
Two folding boats ... ..	4
Ten riding outfits : saddles, snaffles, stirrups, horse-rugs, rope halters, drinking-buckets, water-sacks, curry- combs ; one reserve set of harness ... ..	1
One cauldron with supports for scalding horns and skulls	1
400 signal-lights ... ..	2
Spades, axes, files, knapsacks, hammers, pincers, lanterns, illuminators, etc. ... ..	10
Cartridges for guns, small shot and pea-rifle ammunition	20
Photographic plates ... ..	12
Magnesium light cartridges ... ..	2
Tool-chests ... ..	1
Gramophone ... ..	1
Photographic materials, developers, basins, paper, frames, drying trays, etc. ... ..	7
Aniline plates ... ..	6

IV. PERSONAL MATERIALS							LOADS
Ten tents (three loads each)	...	...	...	...	...	...	30
Two awnings	...	...	...	...	...	...	2
Ten beds	...	...	...	...	...	...	10
Chairs and tables	...	...	...	...	...	...	14
Washing-utensils, pail, stands	...	...	...	...	...	...	10
Rope	...	...	...	...	...	...	3
Petroleum	...	...	...	...	...	...	8
Washing soap	...	...	...	...	...	...	3
Candles (320 lb.)	...	...	...	...	...	...	8
Cooking apparatus	...	...	...	...	...	...	4
Food-baskets	...	...	...	...	...	...	3
Filters, pump-kettles and strainers, boiler floats, etc.	...	...	...	...	...	...	1
Cigars	...	...	...	...	...	...	9
Four patrol tents	...	...	...	...	...	...	4
Washing-bags with sheets and bed linen	...	...	...	...	...	...	10
Provisions	...	...	...	...	...	...	200
Beverages	...	...	...	...	...	...	180
Flour, rice, etc.	...	...	...	...	...	...	180
Reserve loads	...	...	...	...	...	...	50

As it would have been out of the question to convey this vast number of chests and cases along with us by means of one big bearer column, I ordered the most indispensable portion off to Bukoba, and the remaining and larger part to Entebbe. Finding, too, that it would be exceedingly difficult to provide adequately for any length of time for such a caravan as ours, more especially as we were to traverse districts where but little sustenance would be obtainable for our 700 men, Lieutenant von Wiese proposed to establish stations along the line of march, which would be visited at stated periods by supplementary caravans despatched from Entebbe. These extra caravans were to be chiefly employed in conveying commissariat for the Europeans and bearers, loads of goods for barter and scientific apparatus, etc. This disposition worked out capitally; all the caravans, excepting one, reached their destined stations at the

appointed times, in spite of long marches lasting two and three months.

The formation of seven such depots was found to be necessary :—

- (1) Bearers' commissariat caravan to Mpororo, 200 men.
- (2) Bearers' commissariat caravan to Lake Mohasi, 100 men.
- (3) Bearers' commissariat caravan to Kissenji at the north end of Lake Kiwu, 300 men.
- (4) Supplementary caravan to Kissenji with European commissariat and barter goods, 200 men.
- (5) Commissariat caravan to Kasindi at the north end of Lake Albert Edward, 600 men.
- (6) 200 loads of rice and beans and 300 cases commissariat for Europeans to Beni in Congo State.
- (7) 500 loads of rice, etc., and 100 loads for Europeans containing provisions and scientific apparatus, to Irumu, also in the Congo State. Total, 2,230 men.

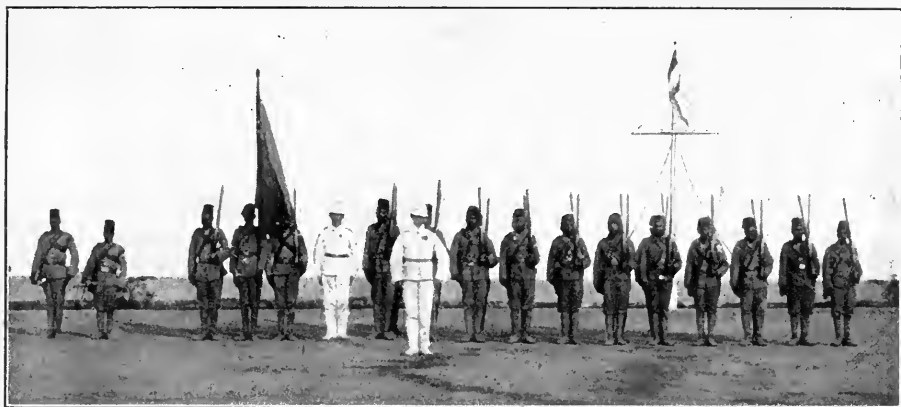
Of course, in addition to utilising these various depots, the expedition was to make daily purchases of native products from the villages. The stores at the depots were to be broached only in the steppe districts and in such places where provisions could not be procured from the natives.

To illustrate how much heavier are the expenses of a big caravan in Central Africa than in the more accessible territories near the coast lines, I might state that a bag of rice worth 5 rupees at Entebbe is valued at 16 rupees when it reaches Lake Kiwu by a bearer transport.

In order to gain some idea of what an expedition of 700 men manages to consume in the way of food, it may be mentioned that during the first fourteen days we disposed of no fewer than 20,000 bunches of bananas (about 50 bananas to the bunch), 300 sacks of peas and bags of flour, over 30 bullocks, various game, etc.

Wiese with his transport arrived at the terminus of Kisumu





TROOPS OF THE EXPEDITION



MHALA



by the Uganda Railway and steamed thence in the English boat *Winifred* to Muansa, the chief German post on Lake Victoria. Here he secured a very useful set of bearers, 300 Wassukuma, and despatched them to Bukoba on the west coast of Lake Victoria, the starting-point of the expedition.

On arrival he was enabled by the friendliness of the Resident, Captain von Stuermer, to recruit another 250 followers from the Wahaia. This was the first occasion for a very long time on which these natives were employed as bearers outside their own country. They had been left alone as, generally speaking, they were not thought much of as carriers. It was feared that in the event of the bananas giving out, the lack of their staple article of diet might prove a serious matter. I will say at once, that though the Wahaia did not equal the Wassukuma in efficiency, they marched well with light loads; and that in spite of a total change of conditions as regards diet, their health left nothing to be desired. Whereas the Wassukuma, who are in considerable demand as bearers, make great pretensions and must receive their eight rupees monthly in addition to free food and tent supplies, cooking pots and woollen blankets, the Wahaia are content with a wage of four rupees, apart from allowances. The experiment made by this expedition with the Wahaia may therefore possibly be of some interest to the Government of German East Africa. Later on, at Lake Kiwu, we replaced these Wahaia by 200 Manjema, obtained from Tanganjika through the good offices of Captain Göring of Udjidji.

Seven additional mules were purchased to serve as riding mounts, and were conveyed to Bukoba, where the ten half-bred Maskât and native donkeys ordered from Muansa had already come to hand.

Early in May I was advised by telegram that the whole company requisite for the undertaking, a total of 700 souls, was in readiness at Bukoba.

The caravan was composed as follows:—

One *Betschausch* (field-cornet), 2 *Schausch* (sergeants), 5

*Ombascha* (corporals), 2 acting-*Ombascha*, and 25 *Askari*; 20 European "boys," 10 assistant "boys," 4 cooks, 4 kitchen "boys," 5 assistants to prepare specimens, 34 native soldiers, 33 "boy" carriers, 2 interpreters, 300 carriers for the European loads, 200 carriers for the ammunition, barter-goods, followers' stores, water, instruments, photographic materials, collections, reserve loads, etc., etc.

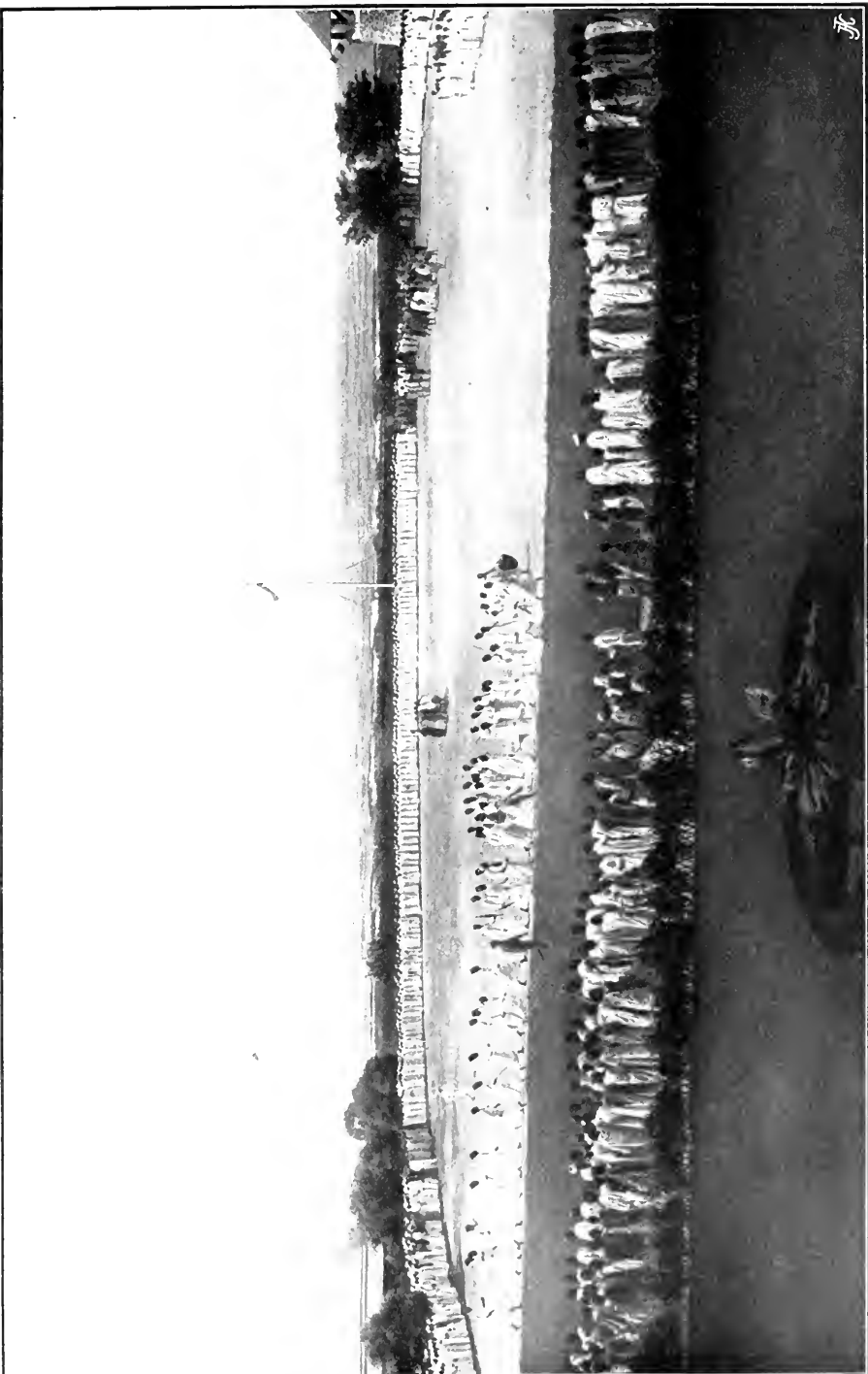
In the meantime I had not been inactive in Europe. The undertaking having been placed on a sound basis, the responsible task of obtaining the necessary equipment was proceeded with. The experience I had gained on several smaller previous expeditions stood me in good stead. During the time that I was hurrying from store to store, giving orders and testing the goods delivered, my correspondence accumulated to such an extent that I was only able to cope with it and answer the numerous questions asked by dictating the replies. At the same time I found it necessary to hold a series of conferences with the representatives of the scientific institutions interested and various members of the expedition, the majority of whom had not previously travelled in Africa.

I breathed freely at last, when, during the first week of April, the large number of packages had been put together and were shipped at Hamburg.

Having received two years' furlough I formally gave up the duties of major, which I had fulfilled for two years on the staff of the Second Dragoon Regiment of Guards, a regiment which had grown very dear to me. My regimental comrades, however, as well as numerous other Berlin acquaintances, rivalled each other in their efforts to make my last few evenings pleasant ones.

I left Berlin with Raven on the 9th of May. A large number of friends and acquaintances accompanied us to the railway station, and the last few minutes in the Home country were spent in animated conversation.

28



GREETING THE SULTANS AT BUKOBA



## CHAPTER II

### LAKE VICTORIA AND THE KAGERA BASIN

ON the 13th of May I embarked at Naples with the other members of the expedition on the ss. *Bürgermeister* of the D.O.A. Line for Mombasa, which we reached on the 30th of the same month. To my surprise I found all our goods, even those sent by the last steamer, already stowed in the Customs' sheds, for I had thought them to be at sea. Thus we were forced to look after the forwarding of them ourselves. However, through the kind courtesy of the English authorities, whose broad-minded business methods always work so beneficently, all difficulties were smoothed over.

Soon the great collection of chests and cases was on its way to the railway station, where we started loading up the trucks. Two passenger carriages for myself and party were courteously placed at my disposal for the journey to Kisumu, the terminus of the railway at Lake Victoria, where we arrived safe and sound on the 6th of June.

Here the *Sybil* was lying, one of those smart English 500-ton boats which negotiate the traffic on Lake Victoria.

After a brisk run over the lake we reached the capital, Entebbe, which is at the same time the seat of the Government of Uganda. In the evening we were present at a very successful entertainment at the house of the Acting-Governor, which wound up delightfully with a grand illumination of the great drive which winds in and out in serpentine form from the palace of the Governor to Kai. Then we clambered aboard the *Sybil* again for the night.

The sleepers' eyes were still heavy and tired as we weighed

## In the Heart of Africa

anchor in the murky dawn after a heavy thunder-shower on the 9th of June, to push on to the starting point of our wanderings. And again day had passed into darkness when we at last beheld the lights of Bukoba in the distance. Excitement, easily to be understood, seized us all as we endeavoured to pierce the dusk with our telescopes. We approached closer and closer, and as the smart little craft glided through the narrow straight between the "Toteninsel" and the mainland of Bukoba, rockets and Bengal lights shot up from the shores, conjuring up as if by enchantment phantom-like silhouettes in a most effective way. The *Sybil* still glided on a short distance, then the siren shrieked, the anchor rattled down into the deep, and the ship shivered and lay still. We had reached our goal.

Presently we heard the measured strokes of the oars of a cutter, and a few moments later we were able to welcome aboard our Bukoba hosts, Captain von Stuemmer, First Lieutenant von Wiese, First Lieutenant von Einsiedel, Lieutenant Lincke (recently furloughed), and Dr. Marschall. There was simply no end to inquiries and reports, and it was far into the night before we separated.

An imposing entry had been planned to take place on the morning after our arrival. Going up on deck at sunrise, according to my custom, glass in hand, to scrutinise the river banks of the country that was now to be our home for twelve months, a most charming spectacle lay before my eyes.

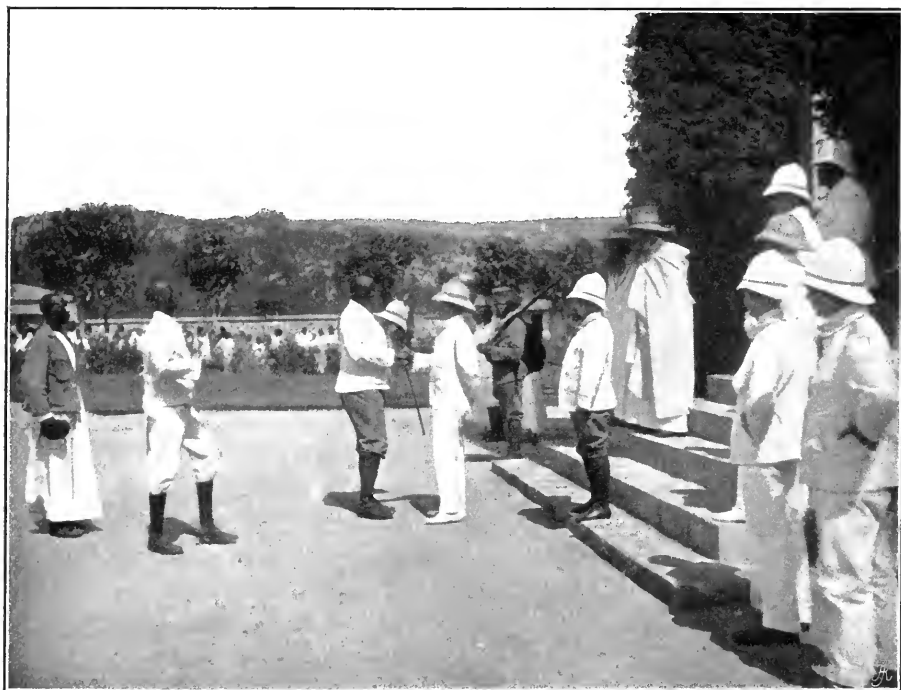
From the fort of Bukoba and from the houses lying farther back, which were used as residences by the sultans of the district when visiting the town, long, regular processions gradually resolved themselves from a huge jumbled throng of human beings. The people, clad for the occasion in long white *kansu*,\* marched with a fanfare of trumpets and the music of native bands down to the landing-stage. The sultans, who led their own troops, rode at the head. The processions appeared simply endless, new columns constantly coming up. It was indeed a proud manifestation of the development of Germany's

\* *Kansu*, long Arabian shirt.





DISTRIBUTING STORES



EXCHANGING GREETINGS WITH THE SULTAN KAHIGI OF KIANJA AT BUKOBA



power that was revealed to us from the river banks, and it was increased in value by the entirely unconcealed appreciation accorded by the English officers and all the crew of the *Sybil*, to whom such a scene was entirely new. The march past lasted for an hour and a half, and was completed by the arrival of the 7th Company, stationed at Bukoba, and the troops obtained by Lieutenant von Wiese for the expedition, flying the German flag and that of my own country, Mecklenburg.

Some seven thousand people awaited us on the banks as I landed, escorted by Captain von Stuemmer (the others had preceded us), for the welcome at ten o'clock. The soldiers and the military police, together with the sultans' troops, came to the salute. All the bands struck up, and in the midst of their strains, which reverberated far away across the lake, there suddenly penetrated the customary ear-deafening clamour, shouting and hand-clapping from the squatting crowd, whilst above this wild din the melodious greeting of the Wahaia rang clearly out: *Kamerēre, rugāwa, Kamerēre, rugāwa.*

After a hearty exchange of salutations with the sultans, by shaking of hands and a few words in Suaheli, which is the language generally used here, I was at last able to direct my attention to the newly enlisted carriers for the expedition, amongst whom I found many who were familiar to me from the 1905 journey. These fine fellows seemed genuinely pleased to see me, and came up and stretched out their hands in a loyal fashion.

At the house of the Resident, whither we were escorted by the whole crowd, I greeted the missionaries of the White Fathers stationed at Marienberg, at whose head stood Bishop Hirth. We then sat down to a repast, in the middle of which Professor Koch, who had returned from a tour of inspection, appeared quite unexpectedly. I was also given an opportunity of admiring the musical skill of the mission school band.

The days we spent there passed quickly with native festivals, at which dancing and the beating of the *goma* went on day and night, and with visits in Marienberg and to the residence of

the Grand Sultan Kahigi at Kianja. Seeing that in consequence of our arrival at Bukoba and our imposing reception all the Grand Sultans were assembled together, it was as much an act of courtesy as of prudence to return all visits as far as possible. This is a point of etiquette on which African potentates are very keen, and of course a successful result to our labours greatly depended upon the material support of the sultans.

At length the morning of the 17th of June dawned, the day which was to see us start away into the interior of Africa. The marshalling of a caravan with such a large number of carriers was by no means an easy task. Yet thanks to Lieutenant von Wiese, who had taken time by the forelock and exercised and trained our forces and taught all the carriers their proper places, the long procession managed to get under way without much trouble as early as seven o'clock in the morning. All Bukoba turned out to form an escort to the departing caravan, and on each side of us and in front of our Askari, who led the van with trumpet blasts, the way was densely blocked with natives.

It is an old and time-honoured rule that the first day of a journey, such as ours, should be a fairly short one, as experience has shown that in the general excitement and flurry of the start out indispensable articles are apt to be overlooked. So we halted after a three-hours' march at Gera, the residence of the Sultan Mutahangarua of Kisiba. We were received, as at Kianja, with great pomp and circumstance and conducted by a long line of white-clad people to a guest-house which stood in the midst of a broad open space, in the vicinity of which the tents were pitched. Thousands of natives streamed into the residence, dancing began and the beating of drums, blowing of pipes and the clanging of the *goma* echoed through the mountains far into the night.

The influence of the European on the manners and habits and in the houses of the sultans is very remarkable. Here, as at Kianja, the shape of the houses and also the interior arrangement had been perfectly imitated from the Europeans. The native round huts served as dwellings for the people alone. The sultan's palace exhibited the same long-shaped



BODYGUARD OF SULTAN KAHIGI OF KIANJA (CAPTAIN VON STUEMER  
STANDING NEXT TO THE SULTAN)



SULTAN MUTAHANGARUA OF KISIBA WITH HIS ORCHESTRA



roof as ours. The interior was divided into various compartments. Chairs, tables, and even a chest of drawers were among the appointments, while on one of the walls an oleograph of the German Imperial pair made a fine show.

This sultan has the reputation of being the most progressive in the district. He takes much interest in all European matters and equipments, many of which he endeavours to introduce. For instance, he made us carefully explain the construction of the folding boats which we had brought with us, and continue explaining till he had fully grasped the idea. He is a beginner in the German language, but likes to practise it, and that he might not forget a new sentence he had learned whilst he was inspecting the boat, he kept on murmuring: "*Das ist ein boot—das ist ein boot.*"

We had also to go and visit the old mother of the sultan, who lived in one of the round huts which was built in somewhat more elaborate style than the rest. She and the sultan, and, indeed, all the members of the reigning family of the Bukoba province, are descended from the ancient and distinguished race of Wahima, with whom later on we were to become more closely acquainted in Ruanda.

The next morning a start was made, as usual, by sunrise. The routine was pretty well the same every day for the next few months, and consisted as follows: At five o'clock the Arabian call was blown, then ensued the hurried collecting together of tents, strapping up of loads and breakfast in primitive form. Shortly before 6 a.m. the Askari and the carriers, with their loads properly strapped, took up their positions. Lieutenant von Wiese, to whom I had entrusted the sole charge of the Askari and the carriers, adopted an excellent plan whereby he could pick out the loafers and sick among them. He would send on those carriers who were ready with their loads a mile in advance, so that any unappropriated burdens would at once be noticed. Immediately the last load had been picked up by its proper carrier, the signal to advance was sounded; two previously selected Askari marched at the

side of the Europeans, and the main body at the head of the carrier column, the rear of which was again brought up by two Askari and at least two Europeans.

And then with flags flying and songs sung by the carriers, accompanied for a time by the rhythmical beating of sticks against the cases, the huge caravan set out on the march.

Even at this stage all our Europeans were not ready for the march. Lieutenant Weiss and Kirschstein, the geologist, were still absent. They had asked for a few days' leave of absence for the purpose of adjusting instruments, a matter which was better undertaken at Bukoba. Before any expedition sets out it is essential that all instruments should be subjected to a supreme final test as to their accuracy, as they are liable to suffer in transit by sea and rail. Weiss, therefore, very properly, laid stress upon their undergoing a final examination. Apart from this he utilised the opportunity to take astronomical time and date computations. Bukoba was excellently situated for such work, as its exact position had been very accurately determined by the trigonometrical survey of the Anglo-German boundary expedition. Weiss decided, therefore, to calculate the longitudinal measurements by the aid of his seven chronometers.

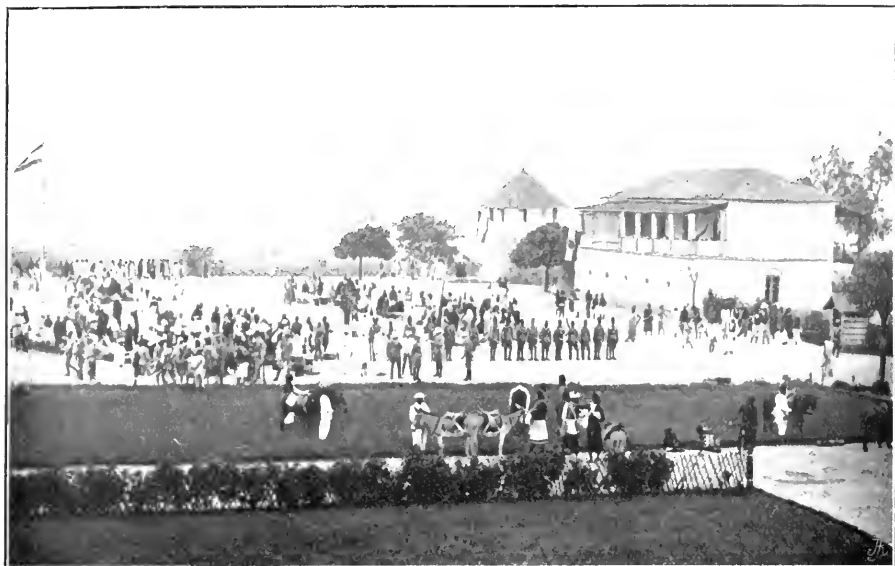
Dr. Czekanowski had already marched off to Marienberg.

Early in the morning of the 18th of June we came upon a cave picture near Buanja, which had shortly before been discovered by the Mission Brothers. The walls of the cave were covered with strange paintings which formed an interesting record of primeval man's ideas of art.

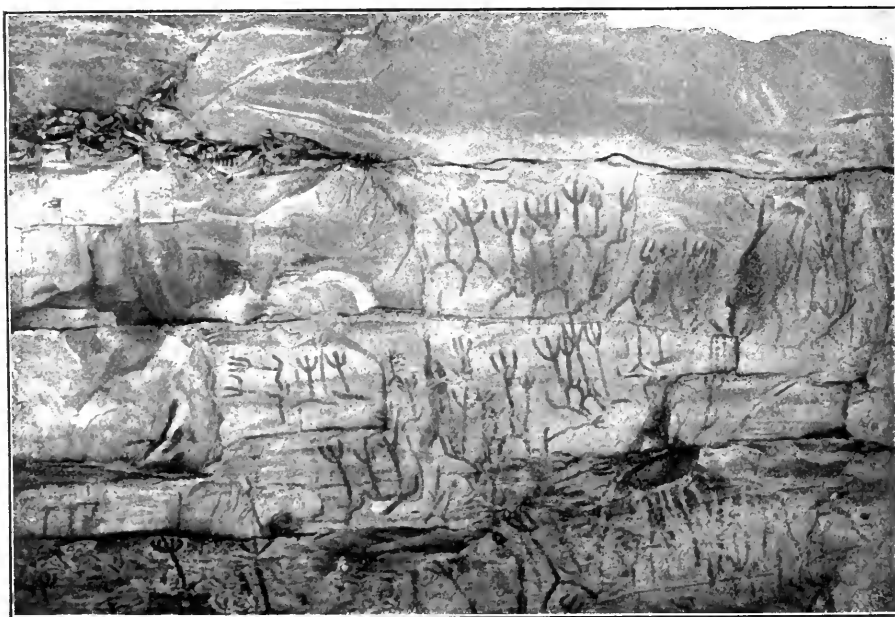
One industrial feature of the province is the manufacture of material for wearing apparel out of bark. The woof is fabricated from the bark of the lumbue tree, and is often of considerable length. These stuffs, which attain an almost transparent fineness of texture through being beaten with wooden hammers, are figured with patterns, for which purpose a mixture of clay dissolved in water is used, and are then dried in the sun.

At Buanja Dr. Czekanowski fell in with us again. He had already been very active and obtained possession of a consider-





THE EXPEDITION STARTING FROM BUKOBA



CAVE DRAWINGS NEAR BUANJA



able number of skulls and other anthropological specimens, amongst which were five complete skeletons.

The following morning at sunrise we reached that lazily flowing stream, the Ngono, a deep tributary of the Kagera, over which dense layers of mist were hovering. The sun was struggling painfully to show its pale face through the damp and nebulous veil. Thanks to the foresight of Captain von Stuemmer, the crossing was rapidly effected and without the slightest contretemps. A number of boats were in waiting, and with the aid of powerful oars the transit was completed in an hour and three-quarters.

The beautiful country through which our way had so far led us began now to change into dreary, swampy wastes. The Bukoba officials have with great difficulty constructed a fine *barra-barra* (broad road) through these, which has contributed in no small degree to the development of traffic and commerce in the adjoining thickly populated districts. Speaking generally I may say that nowhere else have I met with such excellent roads as those prevailing in the Bukoba province. Splendidly kept highways intersect the country in all directions, and a brisk traffic is maintained upon them, particularly with the chief city.

Gazing down from the heights, we were soon afforded a view of the Kagera winding in and out, encircled by a broad belt of papyrus. Following its course, we came to the village of Kifumbiro, a small outpost close to the river, under the command of a non-commissioned officer. The main body of the caravan halted at this spot for a few days, whilst the various members of the expedition employed the time in making a few individual investigations.

Mildbraed and Schubotz visited the German portion of the Buddu forest for zoological and botanical purposes, whilst Captain von Stuemmer, Wiese, Raven and I wandered along the left bank of the river towards Kitengule in search of zoological matter. On our way messengers met us with tidings of a herd of buffaloes, and as we were anxious to kill one for the purpose of comparison with those we might come across later on, we

stationed ourselves at the rear of the troop. Unfortunately we had our trouble for nothing. In spite of rising in the grey of the morning, being all in our places, and getting wet with cold dew, and though we sighted these striking-looking creatures several times, we failed to bring off a lucky shot. To compensate us, however, Lieutenant von Wiese brought down three rhinoceroses, which proved to be the only ones we met. Lieutenant Weiss alone of us saw any more of these animals—at Mtagata in Karagwe. Their boundary line is limited by the Kagera on the northern and western side.

The different spheres of activity which our ten members represented soon manifested themselves, and thus the big caravan was continually being divided into sections. We adhered to this principle the whole way through, and with the best of results.

Still, apart from these various interests, the size of the caravan alone made it necessary to strike different marching routes if we desired to avoid the fear of famine. Thus at Kifumbiro we had to separate. After arriving there, Weiss and Kirschstein soon broke off again to march southwards from the Kagera over the hot springs of Mtagata, through Karagwe to Mpororo, while the rest of us selected the route to the north of the river.

Whilst crossing the torrential Kagera in a folding boat early on the 25th of June, three salvos from the guns of the Kifumbiro outpost thundered a farewell over our heads.

Here we left Kisiba to enter into the Buddu territory. After an easy and pleasant march in the cool morning air, we neared the Katojo residence of the reigning Sultan Ruhikika, who welcomed us with great ostentation. All his people and his police troops drew up in line. Mildbraed and Schubotz met us here again. After a long march, keeping always to the *barrabarra*—a particularly painful journey to me in consequence of a touch of lumbago I had acquired from the excessively cold nights—we reached the camp at midday in the burning noontide heat.

Whilst hitherto banana plantations had formed the most

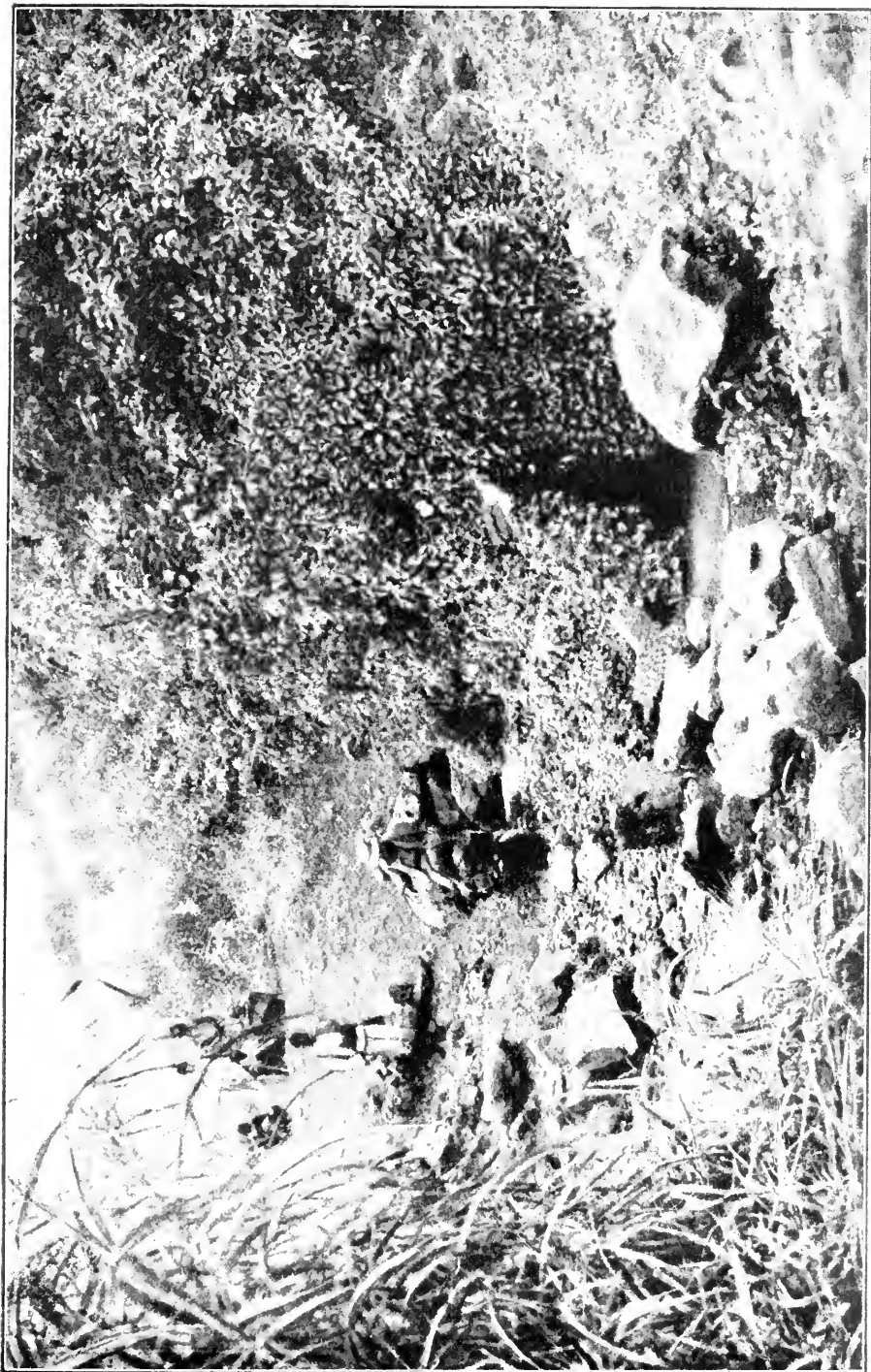


WAHAIAS PREPARING BARK



FRAMEWORK OF A WAHAIA HUT : BUKOBA DISTRICT









noticeable feature of the Bukoba province, the country now gradually began to assume a more steppe-like character, and game was met in abundance. We camped in the centre of a steppe on which candelabrum-shaped euphorbiaceous plants grew almost exclusively, which were more typical than any I had seen before. You could scan the horizon on all sides. Here and there a graceful Swala antelope started up from the low-lying grass, and now and then a startled rietbock flew away from us across the plain. The little ducker\* whisked off in alarm from cover to cover, and sharply defined against the golden-red glow of the setting sun, which was bathing everything in an indescribable flood of splendour, could be seen the unlovely form of the lyre antelope eyeing us in perplexity and bewilderment.

Our route now lay via Kiangwe, Kenschambi, Niawatura to Kesimbili, where in 1902 the Anglo-German Boundary Commission laid the stones which mark the limit of British territory.

This march was one of the most interesting in the whole of this province, and certainly the finest as regards scenery. The path, which rose up steeply over high masses of rock, led directly to the rapids of the wild-rushing Kagera, whose banks, bordered with broads bands of papyrus and phoenix palms, would have enchanted any artist's eye. The temperature, corresponding to the altitude, was very cool in the early morning and evening hours, the average record at sunrise being 8 degrees, 28 degrees at noon, and 20 degrees Celsius at seven in the evening. These temperatures conduced in a marked degree to the capacity for work of both Europeans and carriers. The evening hours beneath the starlit heavens were almost cold, and a warm European coat was decidedly welcome. We were exceedingly glad to experience this weather, as it indicated the close of the rainy season, which had commenced almost simultaneously with our arrival at Bukoba. It was most fortunate in respect to our collections, as we were thus enabled to send away our zoological and botanical specimens in first-class condition.

At the boundary of the Bukoba province Captain von Stuermer

\* *Ducker*, dwarf antelope.

was obliged to take leave of us and return to Bukoba. His departure caused genuine regret, for apart from the loss of a delightful companion, his presence had meant really lavish victualling for us. At all the store depots at which we had so far rested thousands of bananas were lying ready for use, which had been collected and brought along by the natives.

This condition of things was now quite altered. The fine *barrabarra* came to an abrupt end. The country through which we passed was most sparsely grown, the soil was bad, the natives very few in number and very timid, running away and hiding themselves at our approach.

This attitude was attributable to the rebelliousness of their chief, Kisliwombo, who refused allegiance to the neighbouring Sultan Msinga of Ruanda, the lord of this territory. As the Ruanda Residency desired the subordination of all the neighbouring sultans to the sovereignty of Msinga, it became evident that an official order on the matter was being expected, and was believed to have arrived when our caravan came into view. It was a difficult matter to allay the people's fears. By means of repeated assurances of friendship and promises of *baksheesh*, however, we were finally enabled to secure a few goats and other articles of food.

It is no matter for surprise, therefore, that we hurried away from this poverty-stricken place in order to get forward to Rufua, an abandoned station in Mpororo, where we intended to make fresh plans. Shortly before, on the 1st of July, we had an agreeable surprise in meeting Lieutenant Wintgens, for which our thanks were due to Captain von Grawert, the Ruanda Resident. Accompanied by him, we soon afterwards reached the deserted outpost, the dilapidated buildings of which afforded us scant, though welcome, accommodation. Its elevated position enabled us to obtain a fine view of the undulating steppe.

On arrival at Rufua we spent a few quiet days in perfecting our latest specimens and in carefully packing them ready for despatch. Thus on the 6th of July we were again in a position to send away a large collection of ethnographical, zoological,

EUPHORBIA STEPPE AT KATOJO





botanical, and geological specimens by special caravan to Bukoba for transport to Europe.

The feverish activity displayed in camp on one of these so-called "rest days" is hardly describable. Writing went on uninterruptedly in every tent. The zoologist would sit bending over his collection, busy and eager with his microscopes, designations, and labelling. Every creature, however tiny, received a number, and this was noted in the ledger. Around the botanist's tent a number of bulky presses containing dried plants might be observed, and at their side innumerable rolls of paper for drying purposes, which would suddenly be whirled up into the air by a sharp gust of wind. Then the learned doctor, with streaming hair, would come flying out of his tent in great alarm about his valued treasures, calling out for volunteers to arrest the deserters. The ethnographer could be seen in the midst of a circle of natives whom he had gathered about him, and who, unconcernedly and with stoical indifference, permitted him to make all kinds of measurements and take any number of photographs.

The occasional smile seen flitting across the black man's countenance at the white man's ("*Msungu's*") doings and the responsive confidential nod from a neighbour meant "*wasimu*"—crazy! My faithful Weidemann was to be seen busily engaged in apportioning the Europeans' food stores between the *mpishi*—the cook—and the special caravans. Each member of the expedition had been allotted a certain number of Askari, "boys," carriers, and carrier leaders whilst the expedition lasted. Thus the whole big caravan was subdivided into ten smaller self-dependent *safari*—caravans. In this way irksome new orders were limited to a minimum—in fact, were only needed in case of sickness and death—and the staff worked admirably side by side with their leaders. The distribution of stores and barter goods, however, took place each month at headquarters.

In front of the caravan-leader's tent barter goods for the mountain districts might be seen heaped up, and here would congregate the sultans whose people had brought commissariat along and who wished to receive payment. Differences of opinion

frequently occurred. Quite shameless demands would be quickly suppressed by the leader with a few forcible expressions or sinister motions of the hand. The keeping of the register roll of a caravan of 700 men strong was a highly responsible task for Lieutenant von Wiese, who was admirably supported in the work by Sergeant Czechatka. The name of every single man and the amount due to him for the month had to be entered in the chief register. In districts where Indian or Arabian shops afforded an opportunity for making purchases, any one of them was permitted to draw a cash advance. The value of such advance was made to the applicant in stuffs, beads, or copper wire, as desired, and then entered in the register as wages paid. The balance of any wages due was to be paid out in ready money at the close of the expedition at the chief city of the respective districts, such as Entebbe, Bukoba, Udjidji, and Daressalam, and by the local authorities there, previously appointed to act as paymasters.

As the men always applied for advances at the larger places—for instance, later on, at Kissenji on Lake Kiwu—it may be possible to form some idea of the immense amount of extra work this sort of thing entailed, and the difficulty of keeping a true and accurate register.

Whilst at Rufua I received a letter from Lieutenant Weiss, in which he begged that instead of going to Mpororo he might be permitted to remain at Karagwe, south of the Kagera, and from there to journey across the Kagera ferry to Kanjonsa. He desired this in order that he might erect anew the signalling apparatus with which his work on the Anglo-German Boundary Commission had familiarised him, as the region south of Mpororo was to be surveyed cartographically. At the same time he asked that Kirschstein might be allowed to remain with him. This collaboration of topographer and geologist proved to be a most admirable arrangement, not only at that time, but later on also.

For the first time in Africa the photo-theodolite was employed for topographical charts. The peculiar characteristic of this instrument is that it enables the dimensions of the photo-



GHOSH-HUTS: MIPORORO





graphic plans to be ascertained in any given direction, a quality of great value to geologists. And thus the topographer and the geologist laboured loyally together; they worked out the whole geological projection in profile from Lake Victoria to Kiwu.

New instructions were issued at Rufua. Dr. von Raven and Mildbraed were to march out with the chief caravan through the inhabited regions west of the Kakitumbe watercourse to the western end of Lake Mohasi for the purpose of studying the swamp flora of this lake, and to examine into the hæmatosis of the inhabitants there. Lieutenant von Wiese was sent south to the Kakitumbe to assist Lieutenant Weiss, the signalling expert, with the triangulation, and afterwards to push on to Kakome, at the eastern end of Lake Mohasi. Weiss and Kirschstein were to proceed southwards, west of the Kagera, to make a cartographical and geographical survey of the region lying between Mohasi and South Mpororo, hitherto untrodden by any European, and therefore not even opened up at all. Wintgens, Dr. Schubotz and I proposed making a general tour of inspection throughout this territory, and then meeting the other members of the party at Lake Mohasi. The reunion of forces was fixed for the beginning of August, after a month's interval.

To make amends for the loss of my European dogs, which had been smitten by the disastrous coastal fever, and were lying very sick in quarantine at Mombasa, we procured two native dogs. They were young, strong, well-shaped animals, yellow-brown in colour, with distinctive white markings and pendulous ear-laps; they bore a certain resemblance in form to our hunting dogs, and possessed an individuality of their own, the like of which I have seen nowhere else. We were bothered a good deal at first by their wild nature and their attachment to their native village, for they used to gnaw through the cords with which we tied them to the tent. In the end, however, we concluded a treaty of friendship with them, and once properly used to their new masters, they held loyally by the caravan. Only one of these animals, however, native to Mombasa, but of German strain, survived the journey to the coast and reached Germany at the finish.

## CHAPTER III

### UNTRODDEN PATHS

ON the 5th of July I set out in company with Schubotz and Wintgens to explore the unknown country lying between the Kagera and the little river Kakitumbe. As none of us was acquainted with the actual conditions of the district, we kept at first in the vicinity of the well-watered brook. It was cool here; in fact, quite cold at night, and in the early morning a dense mist lay over the river valley. We found that our Celsius thermometer registered only 7 degrees, and we quickly crept into our winter coats.

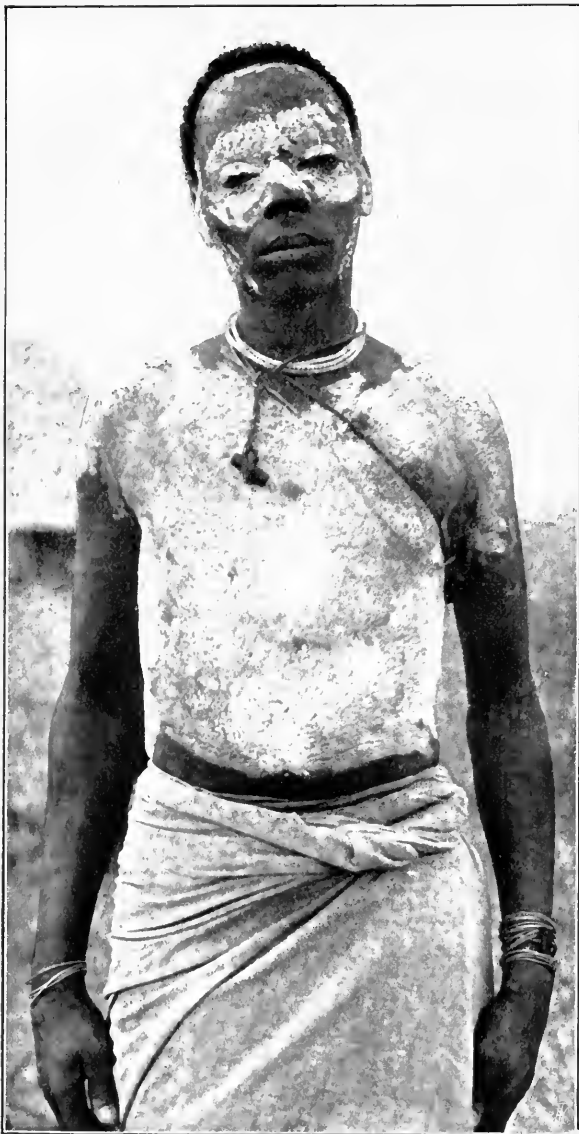
And so we drew away southwards along the course of the Kakitumbe. A hunter's surprise awaited me here. In the course of a short reconnaissance with Wintgens I observed, at a distance of not many yards from our camp, a strong troop of elands with a few powerful bulls among them. Ducking down immediately and keeping close to the ground, I crawled through the grass till I managed to get within shooting distance, when I brought down a young animal of a dark yellow colour, whose appearance had specially attracted me. Having secured the skin, we cut off the head and horns, and proceeded to fix up three hyena traps. Next morning we were surprised to find merely a broken-off under-jaw in the snare and nothing more. The hyena had actually managed to draw the trap some 400 yards away into the bush, and then forfeited its under-jaw as the price of escape. Truly a striking proof of the almost incredible hardiness possessed by certain classes of African animals.

In the meantime our zoological collection had assumed such dimensions that Schubotz stayed in the camp to arrange and



METHODS OF HAIR-DRESSING OF THE WAPORORO





BODY-PAINTING ON A MHIMA SHEPHERD,  
KARAGWE



tabulate it. Wintgens and I, on the other hand, made a little dash forward into the unexplored region to the eastward in the direction of the Kagera, accompanied by very few carriers and with provisions for one day. It is not possible with the pen adequately to describe the wonderful sensation of joy and victory that stirs the soul of the explorer as he roves along virgin tracks never trodden before by European foot. Involuntarily his thoughts fly wandering back, with a feeling of admiration, to those early pioneers of European civilisation, who with undaunted bravery and without those comforts which nowadays tend to alleviate the hardships of travel, spent years in exploring the dark paths of strange countries and facing unknown perils. A glow of reflected splendour seemed to illuminate our path.

It was dark when we left the camp, but before very long the light of day appeared in the east. The steppe, sparsely covered with acacia shrub, spread out before us in hilly chains. From summit to summit we progressed, scouring all the country around and below us with our glasses. Solitude encircled us. To the east the bush dwindled away to treeless *buga*,\* on which roamed numberless herds of every kind of game. In the light of the dawn the striped skin of the zebra and the bulky yellow body of the eland rose up in striking contrast to the dark waste spaces. We saw various kinds of bustard, and ever and anon some great denizen of the air would soar heavenward in majestic flight.

From a mountain top we finally espied a stream rushing along the yellow steppe in its sap-green, red grass setting, and discovered it to be the small river known as the Kalangassa by the natives, which drains into the Kagera and discharges south of Kanjonsa. Its banks were crowded with tremendous herds of game—zebras intermingled with lyre-antelopes, reed-buck and duykerbok of every kind. I thought I would take a snapshot of the zebras, and galloped after a troop, already in flight, leaving my boy a long way behind with my rifle. Suddenly I heard successive shots fired behind me in the distance. As I had an understanding with Wintgens that no ordinary game but buffaloes

\* *Buga*, open steppe.

and lions alone were to be fired at—the elephant is never met with in these parts—I knew that the shots could only mean buffalo or lion. So I turned back hurriedly, and soon caught sight of Wintgens accompanied by two Askari coming towards me with rifles at the ready. "*Bana Lieutenant amepiga simba*" ("the Herr Lieutenant has shot a lion") shouted an Askari from the distance.

"Where is he hiding?" I asked.

"I do not know; we have lost him here by the mountain."

"Did he not stand up in front of you?"

"No; and we have not seen the grass moving either."

"Then he must be close by."

"Quite near, *bana*."

There could be no doubt that the lion was lying between Wintgens and me. It seemed almost as if his pursuers had passed over him as he was crouching in the grass. As Wintgens came up with me without sighting the quarry, the latter possibility was the only feasible one. Having snatched my gun from the hands of my boy, who had rushed up breathless, we placed our followers in position again, and walked back across the same locality. Suddenly one of the Askari at my side stopped sharply, and, with characteristic gesture, pointed his index-finger half right to where the steppe merged into the tall reed-grass by the river, and, snapping finger and thumb together, yelled out with eyes staring and a long-drawn "*aa-aa-aa*," "*Tasama, bana sultani, simba wengi, wengi sana*" ("Look, bana sultani, many, many lions!"). Indeed, I actually beheld five lions hurrying to the protecting river with that heavy, slouching gait peculiar to their kind. This meant a good, smart run for us if we were to cut off their retreat, for once in the high sedge they were as good as lost. As the troop happened to be nearest Wintgens, he got there first. With one shot through the head, he finished the earthly career of a lioness. One of the others, which spun round, vanished into the reeds. With two Askari and a boy I followed up a third trail, which showed distinctly in the grass for a few hundred feet till it disappeared in the bush. We now circled





OUR TOPOGRAPHER AT WORK



WANJAMBO GIRLS FROM MPORORO



round the scrub for a while, but as no trails could be discerned leading out of it, we concluded that the lion must still be lying there, only a few yards away from us. What was to be done? Ordering the Askari to get to the other side of the scrub and try to scare the lion out by yelling, I took up my position just a little way off. One of the Askari, a Masai, who, after his soldiering experiences, was not particularly enamoured of peaceful pursuits—a splendid, grand-looking fellow like all his warlike race, and my constant companion in all my roamings—approached the scrub in most fearless fashion in order to ascertain what it concealed. On a sudden the blood-curdling roar of a lion resounded three times in quick succession, and the beast sprang out with flattened ears and gaping jaws right among us. We all fell back, except the Masai, who was a few paces off on my left. Shouting aloud and mad with excitement, he stretched out his left arm, in which he held his rifle, against the lion. But the beast seized him in the twinkling of an eye. One paw smashed down on the arm, whilst the jaws buried themselves in the hips of the unhappy man. The next moment they were rolling together like a ball on the ground. At the same instant I raised my gun to my shoulder and gave the lion a bullet at five paces; but in the hurry and excitement the aim was bad, and the beast with two great bounds fled back growling into the scrub before I had time to think of a second shot.

The Masai lay on the ground streaming with blood, but had sustained no really serious injuries; his left arm, into which the lion had dug his claw, was rather severely mauled, and the left side bore the scars of the bite for many a long day. I hastened to bandage the nearly senseless man as best I could with my handkerchief, so as to staunch the flow of blood. A draught of water, coupled with the incredible stoicism of the black man in the face of wounds and injuries, enabled him to recuperate so quickly that he was able to sustain the five-hour return journey to the camp without collapsing.

Shortly after, whilst engaged on a search for the wounded lion, I was very much struck by the pluck evinced by the black

Askari. One fellow, named Amdalla, and an *Ombascha*,\* one of whom had witnessed the incident, were intrepid enough to follow up the trail in the water, which reached to their hips, and into the almost impenetrable bog-grass thicket, expecting every moment to come within arm's length of the wounded and bleeding beast. Being aware of the aimlessness of this proceeding, I stopped the pursuit, but it cost me considerable trouble to dissuade the men from their dangerous resolve. I have no doubt but that the lion, exhausted by loss of blood, met his death in the river.

Dusk had already set in when we started to return, and the night soon enwrapped us. We missed Schubotz, who, we understood, had crossed over to the other bank of the river with his Askari and a few men to follow up a herd of equine antelopes. There was nothing unusual in this, but as the hands of the clock pointed to nine, and we still waited in vain, we fired off a rocket as a signal to him. We followed this up with further rockets, and also discharged our rifles, but no reply came back.

As Schubotz's continued absence created some uneasiness, an Askari patrol was sent out in the most probable direction. At last we heard voices in the distance, and saw a flashing of lanterns, which we took to be those of the Askari. It was some time, however, before we heard the splashing of water betokening the return of the missing men.

Schubotz had been overtaken by nightfall whilst in pursuit of his game, and had lost his bearings in the darkness. Time after time he came to one of the windings of the Kakitumbe, and was misled thereby. At the end, too, he and his mule fell into a deep pitfall. Both were got out without injury, but the mule had stuck so fast in the bottom of the pit that the ground had to be dug up all round before its legs could be released.

As it was quite apparent that a better place than Kalangassa could scarcely be found for zoological research, we marched back there the next morning to take up our quarters. We pitched our

\* *Ombascha*, corporal in the colonial force.



WESTERN END OF LAKE MOHASSI



WOMEN MAT-WEAVING AT KISSAKA



tents hard up against a mass of rock rising out of the *buga* and opposite Mount Ndama, two hundred kilometres from the river-course, with an unparalleled view of the country lying in front of us. Whilst en route to our new headquarters we observed a number of people on the summit of Mount Njerubanga, apparently occupied in the construction of a signalling station. In order to attract their attention and to determine whether they were members of the caravan, we took drastic measures. We set the steppe on fire. Our signal did not fail of its effect, for we were soon answered by a similar illumination. A patrol ascertained later that the party belonged to Wiese's caravan, the Askari leader of which did not know the whereabouts of his chief.

It proved, generally speaking, an extremely difficult matter to maintain steady communication with the other column in this undulating region, in which some of the hill summits achieved an elevation of 1,500 metres. The district is deserted, and the inhabitants at the back of the mountain fringes were very shy of Europeans. This quite unjustifiable timidity gave rise to many mistakes, often of a decidedly disagreeable nature. The people furnished lying or inaccurate reports, so that the patrols often lost their way and returned with their missions unaccomplished. At first we used to mark the position of the camp by signalling with lights in the evening hours, a method which was then successful; but later on our signals were obscured by the denser foliage in the south and hilly country, and we thus often remained without tidings of one another for some length of time.

This lack of a connecting line of communication once landed Lieutenant Weiss and Kirschstein in a highly critical position. They had crossed the Kagera at the Kanjonsa ferry in one and a half days in a folding boat, and were journeying southwards for survey purposes. Weiss in reporting the episode wrote:

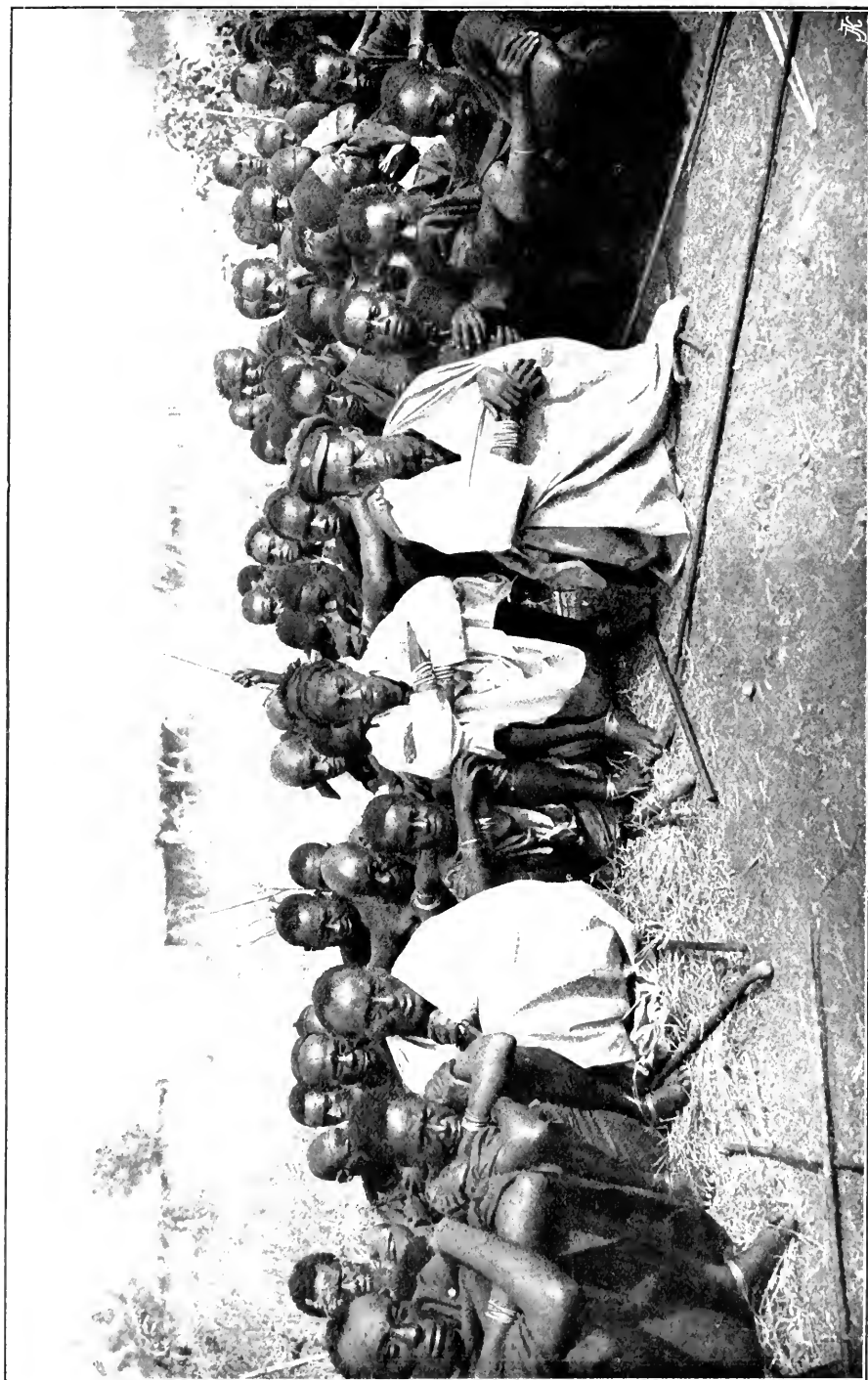
"I was assisted in my signal constructing and topography by Lieutenant von Wiese. In order that we might work together, Wiese and I had arranged to meet near the Kakitumbe at a point where we had determined to construct the new signal station at

Mount Mpungu. Kirschstein remained behind in order to proceed with his geological investigations at Mount Oregero. As, however, we only sported one cook between the two of us, and as I hoped to reach von Wiese's hospitable quarters the same evening, the cook and his kitchen remained behind with Kirschstein. After an eight hours' march, during which I stopped occasionally for an hour or more to take observations, I reached the Kakitumbe opposite Mount Mpungu. Here I commenced a fruitless search for Wiese, but neither the alarm shots of my Askari nor the ascending fireballs brought any return signal.

"Utterly exhausted and incapable of continuing the march, I encamped with my thirty men. It was ten o'clock at night. In fond expectation of Wiese's flesh-pots, I had eaten nothing since midday. Endeavouring to appease my grumbling interior with a final cigar and a cognac, I wrapped myself in a blanket and fell asleep. Early next morning, before daybreak, we were up and off again. First we had to cross the Kakitumbe over a peculiar bridge; the natives had felled the biggest tree growing on the banks in such a manner that it lay across the water with its crown on the further side. Surely one needed the agile shoeless feet of a nigger in order to pass safely over the narrow bridge, bearing fifty or sixty pounds' weight on one's head!

"Arrived at Mount Mpungu, I found a newly constructed trigonometrical signal, but, alas! no living beings. In vain I searched for a note of some sort bearing on the absence of the amiable constructor. In the meantime the noonday hour had crept along. I took all the required measurements from the mountain top. As I considered a further search for Wiese to be hopeless, I was on the point of marching back to Oregero, when my men directed my attention to a few dark specks on the boundless expanse of straw-yellow grass steppe. By the aid of my Voigtländ glass I was soon able to make out an Askari patrol, who, upon our firing an alarm shot, crossed over to us. The men had been hunting three days for me with a letter from Wiese. I learnt his whereabouts from them; he had proceeded further south, and camped with the Sultan Katreia. I immediately





THE SULTAN KATREIA



started off, and came up with him shortly before six o'clock in the evening, tired out and hungry, whilst my fagged-out carriers did not straggle in before eleven o'clock the same night."

As the time I could allow for the surveying of the "White Spot"—a territory of nearly 2,000 square kilometres—was a comparatively short one, the two lieutenants had to work at a fairly quick rate. In consequence of this, and particularly whilst they were in the deeply fissured mountain country of the Kagera district, the commissariat caravans were at times unable to discover their camp. Thus they were compelled every now and then to put themselves, as well as their people, on half or one-third rations.

At Mount Ndama the position was a particularly critical one. The following is a report that I received at that time from Weiss:

"Eight days earlier we had sent off express messengers begging for fresh stores, but no answer had been vouchsafed. Our people's stock of vegetable food had been entirely consumed, and we had already subsisted for two days solely on meat. As far as the eye could see no habitation could be descried. Night after night we lighted blazing piles of wood and fired off the last of our stock of fire-balls to indicate the position of our camp to any commissariat caravan which might possibly be searching for us. But we never got an answer. As it was simply impossible to hold out any longer under such conditions, we decided, with the greatest reluctance, to abandon our interesting labours and to proceed to the next village.

"After journeying for about one and a half hours we suddenly became aware of the head of an Askari gazing down from a height. A moment later his whole body was visible. He was followed by twenty carriers bearing the welcome provision loads. We greeted them with wild cheers, our men setting up an ear-deafening Babel of joyful cries. Our immediate troubles were over, and we were enabled to carry on our work buoyed up with fresh courage and strength. This commissariat caravan had been wandering about the district for five days looking for us.

During the last two nights our signals had been heard, and the caravan had found us in our hour of need."

Meanwhile Wintgens, Schubotz and I had utilised the time of our stay opposite Mount Ndama, and the weeks occupied by Kirschstein and Weiss in their work, to investigate the unexplored region from all quarters. On one occasion this led us in a south-easterly direction, almost to northern Kissaka. We noticed everywhere immense herds of game, which, as usual, consisted mainly of zebras, elands, lyre-antelopes, and reed-bucks. Equine antelopes were only visible during one excursion to the south-east. Lions were enormously abundant, more so than in any other portion of German territory. The only district in which we encountered similar conditions was in the Congo State at the south end of Lake Albert Edward. I might here relate one of our experiences:

Wintgens and I returned to the tent one noonday after a successful excursion, hungry and ready for a well-earned meal. Suddenly our zoologist rushed in with news of a troop of six lions, seen whilst he was returning to camp. During the pursuit the animals, almost invisible amongst the tall grass, permitted him at intervals to approach within a few steps and then fled roaring. As the high grass completely covered the beasts, he was only able to get in a shot at the head of one of the males. The lions then trotted away, and, keeping up a steady pursuit, he saw them disappear in a thicket of dense acanthus.

His story at first excited our incredulity. His imagination appeared to have been strongly stimulated by reports from our followers, who, as is well known, are fond of "living up to" and anticipating their master's wishes. As, however, our hunting instincts were roused by the story, we decided upon driving the scrub. Eighty carriers, on whose faces doubt and disbelief were plainly visible, started immediately, and, accompanied by five Askari, arrived at the thicket in question. We sent off the bearers to the opposite side of the acanthus, a distance of some three hundred metres away, to act as a screen, and posted the Askari on the wings. All our followers were ordered to shout and yell,

and then to fire the dry steppe grass. We hoped in this way, and by means of the dense clouds of smoke, to drive the lions from their lurking place.

Then we three Europeans took up our posts, mine being at the southern end of the thicket near the upper end of the gorge. The zoologist and Wintgens stationed themselves lower down. Sitting on my hunting stool, an Askari ready with a reserve rifle behind me, I waited for events, which I hardly believed would happen. Suddenly, however, I noticed a commotion along the line of bearers, and with the aid of my glasses I perceived that the Askari were shouting and endeavouring to head the wings of the bearer line. I gripped the butt end of my rifle tighter, and, to my indescribable amazement, I observed first one maned head, then a second, and later three more heads of lions emerging from the tall grass close below my position. Unfortunately the height of the grass allowed me to see hardly anything of the bodies of the animals, so that I could scarcely count on the success of any shot. But remembering from experience, particularly applicable in Africa, that not to shoot means failure, I let go at the head of the first one and—missed; also a second and a third time. Then I took refuge in the only right rule for lion shooting: shoot and run as long as you have any breath, for any correct and methodical stalking of these creatures is out of the question. One usually succeeds without cover and with good wind in drawing near to a trotting lion, as he does not keep a very good look out when on the move. I calculated upon this. With rifle in hand I beat a way for myself through the breast-high grass as rapidly as I could down into the gorge, shaking off the Askari, who in his fear tried to hold me back. "*Simana bana, simba wengi*" ("Stay here, master; there's a crowd of lions"), he kept repeating. But I would not be diverted from my purpose, for I could only reckon upon success if I crept somewhere close up.

Just as I reached the bottom of the valley the animals wheeled and fled up the opposite slope about three hundred metres distant from my position. I sighted high and fired. The physical and mental excitement, however, was too great. Another miss!

Through the valley we rushed, hindered and hampered at every step by the tall grass. Half-way up the slope I at last caught a clear view of two of the creatures. At a distance of 150 paces one bullet found its mark in the body of a medium-sized male lion, as one could perceive by the lashing of its tail and by that peculiar deep growling which no one who has once heard ever forgets. Following on the shot we found blood marks, and continued the chase with our guns ready and cocked. Anyone who has ever tracked a wounded lion through the tall grass into the dense scrub knows that creepy sensation of suspense that gradually steals upon one as he penetrates deeper and deeper with rifle at the ready, awaiting an attack at any moment. My nerves, however, were not exposed to too great an ordeal, for whilst following up the bloody trail one of my Askari suddenly saw the lion's tawny hide gleaming through the grass. Turning to me he said: "*Kaputi*, \* *bana*."

I have often found that when dying a lion utters cries which are difficult to describe; I can only say that they sound like dolorous lamentations. On hearing these Dr. Schubotz, who had followed us, rushed up and shook me by the hand, congratulating me. We were regarding the fine creature when one of the boys, Almas, stretched out his hands crying: "See, master, still two more." As a matter of fact, two lionesses were pacing to and fro on the top of a hill some distance off. I immediately left a watch to guard the dead lion, and ran towards the fugitives. The exertion was tremendous, for innumerable summits had to be surmounted, and in places the grass reached up to our breasts. Pulses leaped high and hearts beat to bursting, whilst the perspiration literally poured in streams from our bodies. Yet we were ready for anything rather than lose such game! Better be dead than abandon the pursuit, as long as we had the slightest hope of success. But in spite of every effort the distance between us grew ever greater, and so at length I resigned the spoil to Schubotz, and returned to skin my dead lion.

I had hardly reached the spot when a youth came rushing up

\* *Kaputi*, "done for," a favourite expression for dead.



LION SHOT BY THE AUTHOR, JULY 19, 1907, ON THE BANKS OF THE  
KAKITUMBE



WANJAMBO HUT ON THE KAGERA





crying: "Five other lions have just passed by." My rising doubts were instantly quelled, for ten hands pointed simultaneously to a gentle declivity in the direction of the acanthus thicket, and I actually saw the heads of two lions emerging from the grass. Ordering an Askari to go on skinning, I made ready for a fresh pursuit. A wild hunt commenced, the lion always trotting in front and I following rapidly. Thus one quarter of an hour followed the other. My strength became exhausted, and I was about to abandon my efforts when, two hundred paces distant, I saw another half-grown beast looking round ferociously at me. Although I was in such a breathless condition that I could scarcely hold the rifle steady, I managed to let him have a bullet. Drawing himself up and lashing with his tail, he fled, snarling irascibly, into the acanthus scrub. With him were two females.

The two other lionesses had separated. I decided to make an attempt to overtake them. After following the tracks for two hours, during which time I occasionally caught glimpses of them, I saw them both exposed on the distant summit of the hill gazing down towards me—a picture which Kuhnert knows so excellently how to portray. The sharply defined outlines of the beasts were set in strong relief; two dark silhouettes against the deep red background of the evening sky. Summoning up all my self-possession, I took careful aim and fired. The nearest lioness fell, and vanished reeling in the grass. I fired again, and the second bullet likewise found its mark. We found the first beast lying dead in the bush a few feet away, but the approaching darkness forbade a search for the other, who was not seen again.

We now returned with our booty to where we had left the first lion I had killed. There we met Schubotz and Wintgens in the same exuberant frame of mind as I was. After some futile attempts Wintgens had finally succeeded with a master shot in stretching out a lioness whilst she was bounding across a burnt-out patch of ground. Schubotz had not managed to get another shot. Even though results might have been greater, we were in high spirits in camp that evening; and more than one of the

bottles of champagne we had taken with us for sickness, or other cases of emergency, did duty in celebrating the occasion.

On the 13th of July we again decided to make a day's excursion towards the east, if possible as far as the Kagera. We set off at sunrise with twenty carriers, crossing the Kalangassa and passing the northern slope of Mount Ndama. The farther we proceeded eastward the more hilly and picturesque the country became with its herds of elands, *jimāra* (lyre-antelopes), and zebras. The steppe is chiefly covered with the umbrella palm, which grows in shady clumps. At one of these latter, on a slope near the summit, we saw a troop of equine antelopes browsing.

We had decidedly underrated the distance to the Kagera. Then, too, we had deviated somewhat south-east in consequence of the various hill-tops which had stood in our path. As it was late in the afternoon, we were compelled to return to camp. We arrived there considerably after nightfall, having been away fourteen hours.

On the next day we struck camp and journeyed farther south. A fresh division of loads gave us no small amount of trouble, our greatly increased zoological assortment necessitating a much larger number of carriers. We were in an awkward dilemma with regard to this when, to our great good fortune, one of our commissariat caravans from an inhabited district west of the Kakitumbe hove in sight.

Whilst on the march we came across one of the commissariat trains from Lake Mohasi which had been commissioned for Weiss, and we then received our first German mail. It included our first authentic news of Weiss, as well as of Wiese, whose camp had been passed by this caravan, which had orders to proceed to the Kagera, south of Mount Oregero. In a few lines Weiss and Kirschstein were informed of our movements.

Our new camp lay close beside a papyrus swamp, which extended far away to the south, and was a real El Dorado for buffaloes. Perfectly unknown to man, it was bound to afford us some zoological surprises.

Like all explorers, we had naturally set our ambition upon

bringing home as complete a set of collections as the time would allow. Knowing, too, the ideas held by Professor Matschie, of the Berlin Zoological Museum, for the propagation of the buffalo, I particularly desired to try and fill up any gaps that existed in the series of his observations. For five days I hunted the buffalo untiringly, but all my efforts to bag one were vain. I often nearly came up with a herd, but some slight, unavoidable noise, such as the breaking of a papyrus stalk or a sudden puff of wind, would ruin the attempt. To secure my end I often sacrificed my night's rest, watching in glorious moonshine. I would leave the camp, and attempt to stalk the buffaloes until after midnight in an inhospitable, desolate, and most inconceivably trying tract of country. Many a time I have heard buffaloes all round me passing through the papyrus, and with my rifle ready I have waited for their appearance at one of the many clearings. All in vain! I did not manage to get in a single shot, and turned back to camp terribly disappointed and horribly stung by mosquitoes. On one occasion a characteristic short, sharp growl from a leopard riveted my attention, but in spite of the clear moonlight I could not sight him. I returned to the swamp again, accompanied by the faithful Ombascha Mtoni, my companion of the Masai steppe in 1905. All the others remained behind. On joining them again, empty handed, they showed me the fresh tracks of two lions which had come within rifle range but had vanished at their shouts. The last straw!

The 23rd of July brought us further correspondence. Weiss sent a letter dated from Oregero begging for provisions. I also received a letter from Captain von Grawert, the Ruanda Resident, inviting me to visit the palace of Sultan Msinga of Ruanda on our march from Mohasi to Lake Kiwu; he proposed to await us there, where great preparations for our arrival were already being made. Then a report had to be sent to Leipzig, which occupied nearly the rest of the day.

By this time our commissariat supplies were dwindling to such an alarming extent that we could not think of remaining any longer where we were if we desired to avoid serious trouble.

So we agreed to start away for Mohasi. Schubotz, who was making a systematic investigation of the swamp fauna, separated from us to strike a bee-line for the lake. Thus I remained alone with Wintgens and Weidemann. The latter fell in, unarmed, with a fine bull buffalo whilst returning from dismounting our magnesium light apparatus. As his rifle bearer was some distance away, the much-coveted prize was again lost.

Everything seemed to have conspired against us whilst in this neighbourhood. Wintgens also had good reason to complain of his luck. He tried the buffalo swamp, and had the good fortune at early dawn to encounter a group of buffaloes in one of the clearings. Getting within gunshot, he aimed at the head of one of them, a fine bull who was gazing straight towards him, and the shot told, for he fell to the ground.

As the herd broke frantically away he sent a second shot after a cow buffalo. For some minutes he listened to the crackling of the papyrus stalks made by the fugitives. Then all was still. Wintgens rushed up joyfully to the spot where the creature had fallen, but his face grew abnormally long when he found—nothing! The bullet had doubtless struck against the tough horns of the buffalo and stunned it momentarily. *Voilà tout!* The search for the wounded female also proved fruitless.

The country grew more inhabited the farther we pushed on to the south. Isolated, fine lithe figures of the Watussi, belonging to the Ruanda potentate, were encountered. On the bare, parched hill summits and on the long ridges we could see small hamlets surrounded by milk-weed palisades. The inhabitants were of an affable disposition, and if approached in a kindly manner were very willing to render us any assistance we stood in need of. Corresponding with the altitude we often found the temperature very cold, and in the evening, when in the open, were only too glad to don European overcoats.

Early on the 27th, at five in the morning, we started from Lake Russenje. At first the road winds through inhabited districts till it merges into the broad grass steppe, which is only sparsely covered with umbrella acacia. A great many herds of lyre-



WAKONDJO CICATRISATIONS



CICATRISATIONS ON A MKONDJO WOMAN



antelopes, swala, zebras, reed-buck, and dwarf antelopes were to be seen. At last we found meat again in plenty for our followers, a circumstance which raised all our spirits. On arriving at Mount Lubona we pitched our camp.

After the long stretching heights of East Ruanda had been passed early on the 28th of July, the narrow mirror of Lake Mohasi, which, according to the information given us by the natives, we had not expected to reach before the following day, suddenly burst into view. Wiese's camp was supposed to be very near, and, as a matter of fact, an hour later we were shaking hands with him, after a separation of three weeks. He was no less surprised than we were, and he was also very glad, as he had been awaiting our arrival for fourteen days, after completing the road survey from the Kakitumbe up to the spot. He had pitched his quarters under the shade of a mighty pine tree growing on the banks of the lake, and here a whole colony of herons had settled, quite indifferent to the doings in the camp below them. Wiese utilised his stay to get together a fine collection of all sorts of tattooings and of very interesting ornamental skin markings, which he supplemented on his way to the Congo.

The study of the tattooings and skin markings found in the whole of Central Africa is an extremely remarkable one. It demands very great diligence and very special and detailed investigation to trace the origin and significance of the custom. For instance, Wiese found patterns which constantly recurred, but were frequently accompanied by changing side-marks amongst the hundreds which he copied. According to the statements of the natives they betokened signs of lineage by which the various races recognised their own folk. The ornamental scarrings which are to be found more particularly on the bodies of the inhabitants of the Lake Albert Edward region and the whole of the Congo basin are brought about by an inflammation or artificial irritation of the skin, which is scratched or incised with a knife, according to the pattern desired. The wounds thus made appear to be smeared over with all kinds of vegetable matter and dirt, of which soot is a conspicuous feature,

and causes them to swell up, frequently to an extraordinary extent. We saw skin puffings on the foreheads of the Bangala, the chief race of the middle Congo territory, swollen up to about two centimetres. Countless variations may be found, among which the half-moon shape occurs most frequently.

An immense mail was waiting for me, so that Wiese and I found our hands very full. First of all fresh plans had to be discussed. To Weiss and Kirschstein, who were once again in company, was forwarded detailed information as to our intentions and the road to be followed. To West Mohasi was sent tidings of our arrival. A letter from Captain von Grawert was sent on to Niansa, and soon the Askari postmen-patrols were flying about in all directions. We remained two full days in our tents busied with clerical work. The nomads had turned into settlers.

Wintgens having set out the day before for the west end of the lake, Wiese and I followed on the 30th. At first we journeyed over fairly easy paths leading alongside hills or across them; now and again we were afforded a view of that long, narrow mirror, Lake Mohasi. Then the way lost itself in deep ravines or over high summits, which tried the powers of the load carriers most heavily. Several watercourses passed on the way offered refreshing draughts to our exhausted men. We descended at an early stage from the backs of our mules, which constantly touched the ground with their knees in the steep ascents. Many of the carriers, too, lost control of their powers; some threw down their loads and sank exhausted to the ground. In addition, Lieutenant von Wiese's health during the past few days had not been all that could be desired. The consequences of a heavy cold, accompanied by feverish symptoms, now made themselves felt, so that the poor fellow suffered severely. This state of affairs continued for two days through a fairly well populated country until, at a sharp bend of the road, the mirror of the lake suddenly became visible. Immediately afterwards we sighted the camp, which was in a state of some commotion at the news of our arrival.



Everyone had kept in good health with the exception of Dr. von Raven, who had suffered from a relapse of fever. Greatly to my relief, however, I heard that he had so far recovered that, a few days before, he had been able to make a little trip to northern Kissaka.

Schubotz was not altogether so satisfied with the results of research in Lake Mohasi as he had perhaps expected to be. Apart from an abundance of the microscopic organisms known as plankton, the lake had furnished but little noteworthy material. I will give a short extract or two from Schubotz's own account of his investigations as well as from a report by Dr. Mildbraed, who writes rather more contentedly:

"The west end of Lake Mohasi terminates in a papyrus swamp, and therefore promised rich spoils for zoological treasure-hunters. We were all the more keenly disillusioned to find the fauna far more meagre in character in this great water basin—the first we had explored in Africa—than we had been led to suppose in Germany. In spite of the luxurious vegetation at this part of the lake, the most diligent search was needed before we found a few sponges and polypi attached to some characeous plants. Our dredging experiments, too, which were beset with difficulties in consequence of the inadequate craft, led to sparse results—a scanty show of mussels and snails—in comparison with the pains taken. In pursuing these investigations we\* glided out on to the lake in our little folding boat, threw the dredge into the water, and, summoning all our efforts together, drew it to land.

"On the other hand, the search for plankton, instituted at different spots of the lake, and conducted at different depths, yielded rich material, composed in the main of diminutive crustacea (copepoda and cladocera). The rotatoria were less numerous.

"Crocodiles are not found in Lake Mohasi, nor in any other lake in Ruanda. Had we believed the natives, we should have thought the same about hippopotami, but we were undeceived in

\* I frequently accompanied Schubotz on these excursions.

this respect by a very fine specimen of the latter popping up out of the water one day in close vicinity to our folding boat.

"The scarcity of any large species of fish in the lake was conspicuous. We were only able to capture barbel a few inches in length and some specimens of cichlidæ, and in the stomachs of the otters—which were very plentiful here—we found the remains of small fish only. Consonant with this fact it may be stated here that no fishing is carried on by any of the inhabitants of the surrounding country.

"We found the ornithology of the western end of the lake very rich in species. The lake and its banks and the floating islets of reed masses were animated by swarms of ducks, geese, snake-birds (or darters), water-hens, water-rails and lapwings."

And Mildbraed goes on: "Generally speaking, the papyrus swamps are poor in species, but the western part of Lake Mohasi harbours very rich flora. In almost all respects it corresponds to the other valleys of the district; it is, so to speak, the submerged lower part of a valley which has no outlet, and is gradually drying up in the west. The chief vegetable growths are the papyrus and prickly marsh rush (*Cladium mariscus*), which is also to be met with in Germany, and which forms immense sedgey banks. The numerous floating islets consist entirely of these growths, which are easily pushed aside by a boat. Two shrubs of the willow family luxuriate on these islets, and have been named the *Myrica Kandtiana* Engl., in honour of their discoverer, Dr. Kandt. Strangely enough, a species of *fiscus* (*F. præruptorum* Hiern var. *ruandensis* Mildbr.) also grows there, for it is probably the sole specimen of this large African family to be met with in true swamp formation.

"The open water bears two specimens of water lily, both recognised as fresh discoveries—the *Nymphæa Mildbrædii* Gilg., and *N. magnifica* Gilg.; they form a splendid adornment to the lake, with their blossoms merging into all shades, from rose-red to blue, and their beautiful large floating leaves.

"Then come the wood-ferns found in the sedge-banks, also some other growths, too numerous to mention individually, which



THE MARSHY WESTERN END OF LAKE MOHASI



A MHUTU ERECTING A GRANARY



are disseminated in many species of water-plants such as *Potamogeton* (pond-weed) and *Ceratophyllum* (hornwort), which flourish in exactly similar form in European waters."

Several times a red-brown species of marsh antelope was to be seen on the floating islets, and Czczatka was lucky enough to secure one with his rifle.

We had reason up to this time to be very fairly contented with the sum total of our labours. Although, no doubt, the mapping and surveying and geological investigation of the regions we had wandered through were not quite perfected, yet they were getting near to their finish. Immense quantities of the most diverse collections covered the ground all round the encampment, and the second batch of six hundred loads of scientific material that we had collected was sent away home from Mohasi.

We ourselves wandered away westward to visit Ruanda, intending then to proceed to Lake Kiwu. A new stage of work lay before us.

## CHAPTER IV

### THROUGH RUANDA TO LAKE KIWU

THE month of August found us in Ruanda, that land of fable which we had been longing to see.

Ruanda is certainly the most interesting country in the German East African Protectorate—in fact, in all Central Africa—chiefly on account of its ethnographical and geographical position. Its interest is further increased by the fact that it is one of the last negro kingdoms governed autocratically by a sovereign sultan, for German supremacy is only recognised to a very limited extent. Added to this, it is a land flowing with milk and honey, where the breeding of cattle and bee-culture flourish, and the cultivated soil bears rich crops of fruit. A hilly country, thickly populated, full of beautiful scenery, and possessing a climate incomparably fresh and healthy; a land of great fertility, with watercourses which might be termed perennial streams; a land which offers the brightest of prospects to the white settler.

For our first knowledge of Ruanda our thanks are due to the report of Count von Götzen, the former Governor of German East Africa and the present German Ambassador to the State of Hamburg. Since 1894, when Count von Götzen passed through this territory, *en route* to Kiwu, its conditions had apparently changed very little. The hostile attitude adopted by the inhabitants at that period has, however, given place to a more friendly one, a condition of things due to the increasing European influence. Later on we gained further information concerning this wonderful country through Dr. Kandt, who has narrated his experiences in that admirably written work “Caput Nili.”

Kandt is well known as one of the greatest authorities on



A MTUSSI





Ruanda. Two small properties, Kagera, on the Mashiga, and Bergfrieden, at the southern end of Lake Kiwu, bear witness to his enthusiasm for this strip of territory. With his name that of Captain Grawert may well and worthily be mentioned, the latter having represented the Residency for ten years, until the separation of Urundi and Ruanda made a new administration necessary. Grawert filled his difficult post with diplomatic adroitness and great circumspection, and he had a masterly way of bringing the natives—who at first were somewhat refractory—under the control of the German Government.

Ruanda is doubtless, with the exception of Urundi, the last Sultanate or "Kingdom" in Central Africa which is governed to-day, as in centuries gone by, by a prince clothed with absolute and illimitable powers. There is only one ruler, and no rival sultans are allowed.

The administration in Ruanda differs in many important respects from that of the Bukoba province. It has been seen that in Bukoba there are a large number of sultans who enjoy, more or less, equal rights and privileges. The greatest possible centralisation is aimed at, for it is naturally easier to control and keep in hand the fewer number of sultans (known in the Bukoba province as "*Mukama*" [prince]); the Resident stationed there has consequently made it his object gradually to decrease their number, either by breaking the succession or by compounding with them. The existing sultans bow willingly to the supremacy of the Government, and even upon trifling matters often ask for a ruling from the Resident. All the personal concerns of the sultans pass through his hands. The administration of justice in ordinary matters is in the hands of the sultans, but sentences of death and other heavy penalties are inflicted by the Resident, who at the same time has the power to intervene in smaller matters.

There are many interesting points of difference between Ruanda and Urundi, but at present we shall deal only with the former province. There, nearly a century after the foundation of Bukoba, many far more thickly populated and less explored

districts existed that were under the dominion of one sultan, the ruler over some one and a half million people. To anyone with an intimate knowledge of African affairs it seemed a sheer impossibility that so powerful a sovereign would voluntarily submit to the new *régime*, and agree to enter upon no undertakings within his vast realms except by permission of the European Resident. To compel him to do so would have meant bloody wars and an enormous sacrifice of human life as the inevitable consequence. The sudden change of existing conditions, too, would have involved a heavy pecuniary sacrifice, as the Government would have found it necessary, with such a large population, to appoint a relatively large number of European officials. As such measures would have proved impracticable, complete anarchy would have followed. So the country was therefore allowed to retain its traditional organisation, and the Sultan was given full jurisdiction over his fellow-people under control of the Resident, who was to suppress cruelty as far as possible. In one word, the Government does not acknowledge the Sultan as a sovereign lord, but fully recognises his authority as chief of his clan. Kindred tribes, non-resident in Ruanda, are therefore not subject to the Sultan's jurisdiction, but are under the administration of the Resident.

The fundamental principle is the same with all Residents. It is desired to strengthen and enrich the Sultan and persons in authority, and to increase thereby their interest in the continuance of German rule, so that the desire for revolt shall die away, as the consequence of a rebellion would be a dwindling of their revenues. At the same time, by steadily controlling and directing the Sultan and using his powers, civilising influences would be introduced. Thus by degrees, and almost imperceptibly to the people and to the Sultan himself, he eventually becomes nothing less than the executive instrument of the Resident.

This may explain the apparent breach of the rule so readily quoted—*divide et impera*; only apparent, for both Resident and Sultan play off the subordinate chiefs one against the other, and retain all the privileges which a strong centralisation gives them.



WAHUTU



It explains, also, what to the uninitiated appears to be an error—why the Resident in his own interests often lends his support to the Sultan against subordinate chiefs, instead of assisting the latter to rebel against him.

Another circumstance which tends to facilitate the task of the Bukoba Resident is that the European power and the advantage of friendly relations with Europeans is illustrated daily to the natives by means of the steamer traffic on the lake, and by the impetus given to trade and agriculture by the opening of the Uganda railway. In Ruanda it will not be possible to reckon upon assistance from any such impressions for some time yet.

The people hold their "Mami"—which is the official title of the Sultan—in the greatest awe and reverence. It is extremely rare for anyone to venture to thwart his will, for the Sultan is the owner of the land and all the stock, oxen, calves, goats, pigs, etc. The people certainly enjoy the use of them, but the Sultan retains the power of demanding at his pleasure the return of his property from his subjects.

The population is divided into three classes—the Watussi, the Wahutu, and a pygmy tribe, the Batwa, who dwell chiefly in the bamboo forests of Bugoie, the swamps of Lake Bolero, and on the island of Kwidschwi on Lake Kiwu.

The primitive inhabitants are the Wahutu, an agricultural Bantu tribe, who, one might say, look after the digging and tilling and agricultural economy of the country in general. They are a medium-sized type of people, whose ungainly figures betoken hard toil, and who patiently bow themselves in abject bondage to the later arrived yet ruling race, the Watussi.

The immigration of the Watussi is, without doubt, connected with the great tribal movement which brought the Masai race to East Africa. The same arguments which have led observers to believe that the Masai came from the north and from Egypt, or perhaps even from Arabia, may also hold good in the case of the Watussi. As a matter of fact, many features common to both races may be discerned. The Watussi are a tall, well-made

people with an almost ideal physique. Heights of 1.80, 2.00, and even 2.20 metres (from 5 ft. 11½ in. to 7 ft. 2½ in.) are of quite common occurrence, yet the perfect proportion of their bodies is in no wise detracted from. Whilst the shoulders are generally powerfully built, the waist is at times extraordinarily slender. The hands are elegant and delicate in form, the wrists of an almost feminine grace. They possess that same graceful indolence in their gait which is peculiar to Oriental peoples, and their bronze-brown skin reminds one of the inhabitants of the more hilly parts of northern Africa. Their heads are eminently characteristic. Unmistakable evidences of a foreign strain are betrayed in their high foreheads, the curve of their nostrils, and the fine oval shape of their faces.

The affairs of the country are administered by a number of subordinate chiefs (*Watuales*), also *Watussi* or *Wahima*, who are superintendents of districts, yet are always subject to the supreme control of the ruler, who springs from the old Watussi race, the Bega.\* Frequent interviews with the "Mami" necessitate many journeys to his residence, and it seems that at such times great quantities of *nsoga* have to be consumed, to facilitate the unravelling of awkward problems and to determine the measures to be taken. This is a brew concocted from bananas with malted red sorghum (Chinese sugar-cane), and manufactured at Kinjaruanda. The Sultan's court is at such times often the scene of wild orgies, tumult and beating of drums, which on occasion continue all night.

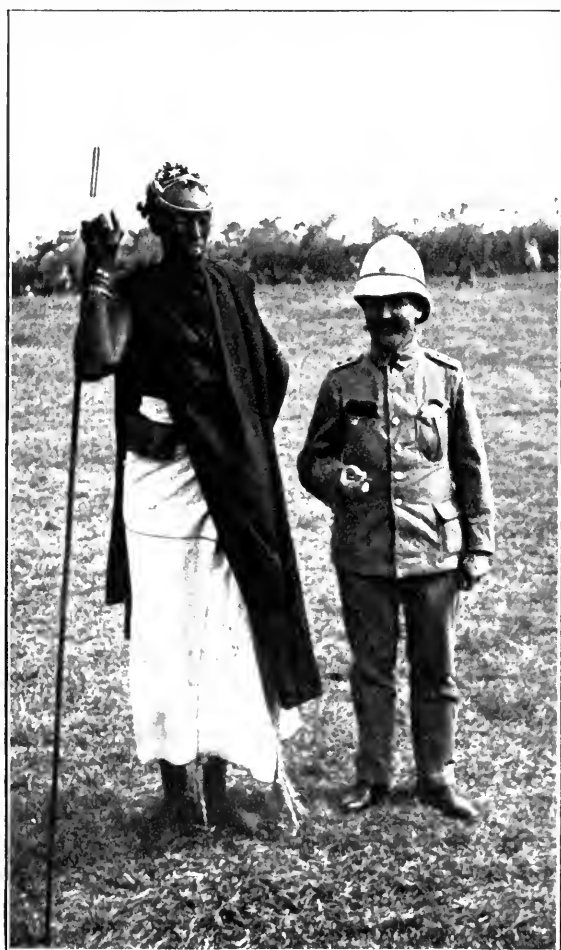
Similarly to their sovereign ruler, the *Watuales* are descended from various distinguished families or clans. These clans hold land, pay taxes to the Sultan, are keen to avenge the bloodshed of kinsmen, and possess a totem, some object of adoration which usually takes the shape of an animal or a plant.

The vendetta, according to Czekanowski, is the real bond of union which cements these clans. If it did not exist they would collapse. In districts where these clans intermingle, and the members of any special family cannot congregate without quarrel-

\* It may be mentioned that there is a Bedja race existent in Nubia.



THE SULTAN MSINGA AND HIS FOLLOWERS



THE TWO RULERS OF RUANDA, MSINGA AND  
CAPTAIN VON GRAWERT





ling, the avenging of blood has usually to be carried out by secret murder. In those districts, however, where the clans live apart with their chieftain, it often assumes the character of a war. From Czekanowski's investigations it would appear that a certain number of clans unite together and form a tribal race possessing one common name and characterised by one common language, in which, however, the feeling of a general community of interests is exhibited in very varying degree. Thus, for instance, whilst Czekanowski later on found this feeling to exist very strongly amongst the Azande, other races, such as the Bakumu-Babira, were hardly sensible of their bonds of union. Czekanowski affirms that the number of clans of which a race is composed varies from twelve (like the Bakondjo) to seventy (as amongst the Banjoro, who are nearly related to the Wanjaruanda).

As already mentioned, every clan reveres a totem, which in Kinjoro is called *umuzimu*. Should the totem take the form of an animal, it is forbidden to kill or to eat such animals. This interdiction is called *umuziru*. It is closely connected with the widespread belief of transmigration of souls, for their creed teaches that the spirits of departed relatives enter the body of their object of adoration. The uncertainty obtaining as to which special totem the spirit of the deceased has entered makes it appear more prudent to the natives to abstain from slaying or eating any animals revered as totems. And doubtless this consideration gave rise to the prohibition.

In Ruanda the souls of the deceased rulers are believed to dwell in the leopard and to continue to torment their people in that shape.

The following are a few clans of the Wanjaruanda, with their totems:

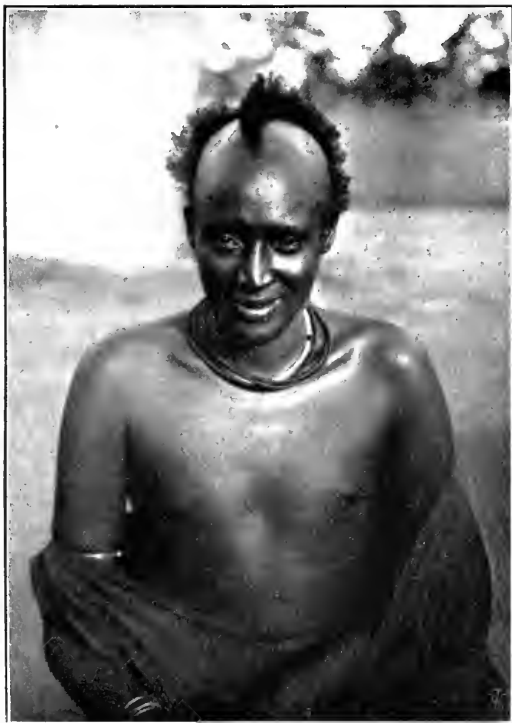
The most widely distributed and most feared of the clans is that of the Bega; they have taken the toad as their *umuzimu*. Another, the Wanjiginga, reveres the crested crane; the Bagessera worship the wagtail, or dish-washer. Farther away there is the clan of the Wankono, whose totems, I understand, are sheep and

goats. The *umuzimu* of the Bakora is the chameleon; the Wasinga's sacred object is a particular species of ox with a dirty-brown patterned hide; that of the Batwa, in the Bugoie forests, is the man-ape, and so on.

The high degree of civilisation existing among the Watussi is assisted by climatic conditions. These are nearly ideal for an equatorial country. Intense heat is excluded by virtue of an average altitude of some 1,600 metres. The temperature prevailing generally is something like that of a warm summer day in Germany. It is refreshingly cool in the mornings and evenings, which is conducive to healthy sleep. As the malaria-carrying mosquito (*Anopheles*) does not exist in this district, such a thing as an outbreak of fever is of rare occurrence. It is true that isolated malaria parasites are found in the blood of Ruanda natives, but these have doubtless been imported from less healthy regions where the *Anopheles* is an acknowledged pest. According to Raven's researches, cases of malaria in Ruanda are insignificantly few in proportion to the density of the population. The tsetse-fly, so destructive to man and beast, is non-existent, and this fact has, so far, protected the territory from the ravaging sleeping-sickness which, as is well known, is disseminated by the tsetse-fly (*glossina palpalis*).

The Watussi make the best uses of their very favourable climatic conditions. The country possesses a fabulous amount of wealth in its herds, to the breeding of which this pastoral people are particularly devoted. Day after day immense herds of broad-horned oxen and small stock of all kinds may be seen grazing on the mountain slopes, for whom provision is made by continually burning away the dried-up grass. The young grass which shoots up from these burnt-out tracts forms a special delicacy. Stock-raising and the productivity of the country are greatly aided by the extraordinary number of small watercourses, which never run dry, even in the dry season.

From what I have written it will easily be seen that the greater part of Ruanda is eminently adapted for colonisation by white men, and that cattle-raising on a large scale, and also agricul-



A MTUSSI



A GROUP OF WATUSSI



ture, may be carried on in a remunerative way, for the quality of the cattle itself is as excellent as that of the milk they yield. As to the quality of the soil, it simply leaves nothing to be desired, so that it is evident that there is a splendid opening here for the establishment of business on a vast scale. The entire region, however, is one which is quite unknown to the German Government, and so it would be a very desirable thing if the State would decide upon sending out a commission, composed of agricultural experts, to examine into the conditions that exist. It would be necessary that an experienced forestry expert should be of their number, as the woods and forests question is an important one in Ruanda.

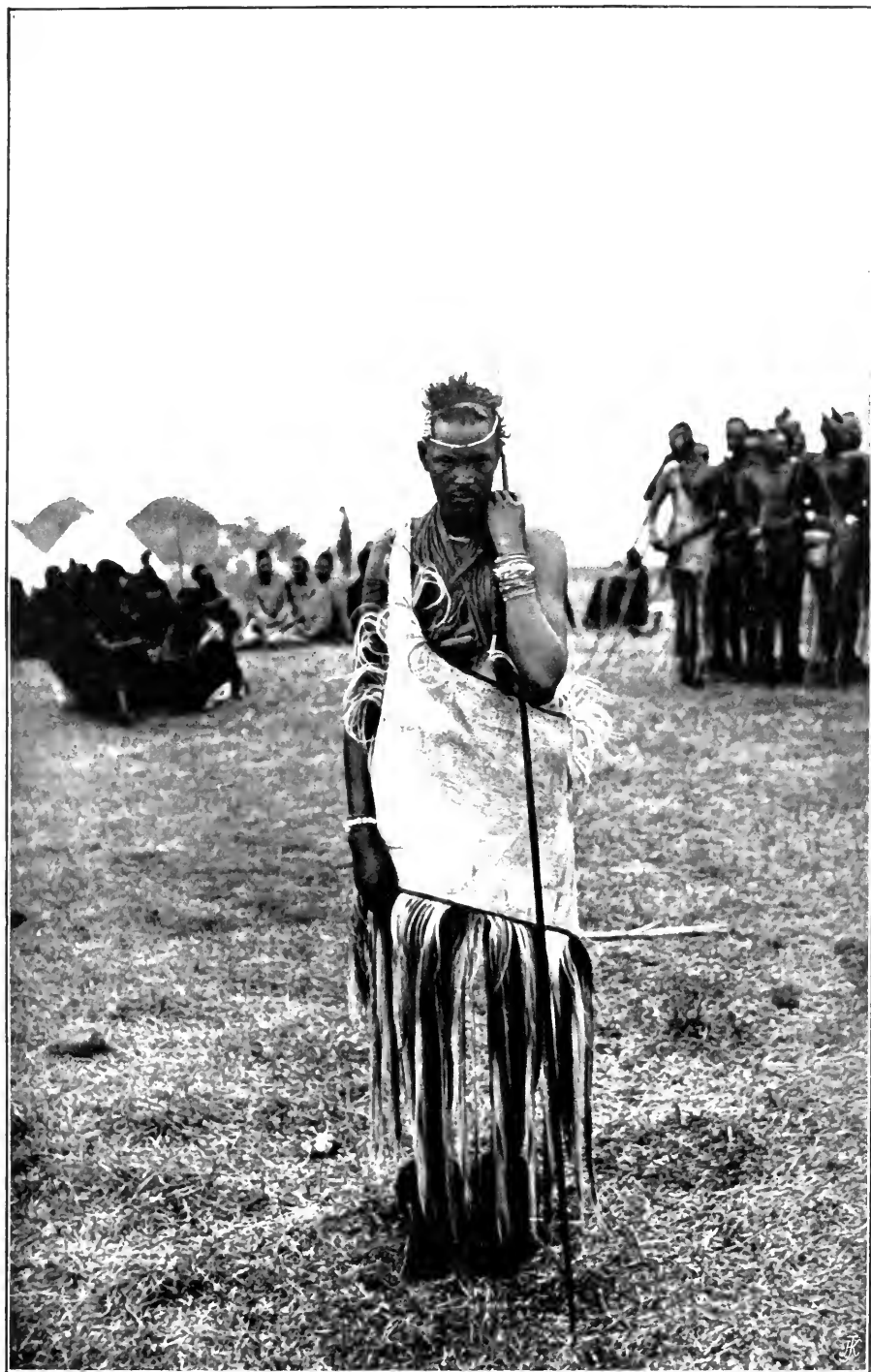
Ruanda, in conjunction with Urundi, is the most thickly peopled region of Central Africa. Its population has been estimated at one and a half millions. The great area of forest-land has, however, been encroached upon by the increasing population so as to provide sufficient space and pasturage for the cattle-rearing Watussi and for the agricultural activities of the Wahutu. At the present day Ruanda possesses only two large tracts of forest on its boundaries: that of Rugege, to the south-east of Lake Kiwu, and the Bugoie forest country, which stretches from the northern end of the lake eastwards. The remnants of ancient forests may be seen here and there on mountain tops, and as these groves are regarded as sacred, they are, therefore, carefully maintained. They evidently mark the abodes of ancient tribal chiefs. The finest specimens of *ficus* are chiefly met with at these spots. Smaller groups of *Acacia Abyssinica*—which, however, are very rare—may, says Mildbraed, be regarded as remains of pristine vegetation. The great central portion of the country is entirely bare of trees. The question of fuel being one of the most important, as regards colonisation, this matter should be inquired into at once. Time should be seized by the forelock, and a judicious afforestation undertaken of those parts which most require it. For there is no doubt that we should not rest content with the railway systems already established at Lake Victoria; the gleaming rails must be pushed still farther ahead, so as to

ensure that we are not robbed of those rich territories lying westward of the lake.

On the 14th of August we set out from Lake Mohasi towards the west, our road leading us at first through the swampy end of the lake. To accomplish the passage a huge quantity of papyrus stalks were cut and placed in layers. On this swaying but reliable foundation even the mules were able to pass across safely. Then the usual load-humping recommenced, which was a painful and laborious business at first for our carriers after their lengthy rest.

Near the village of Katschuri, on a hill overlooking the surrounding country, there stood a mighty tree whose colossal crown of foliage seemed to invite us to a shady resting-place. Some beehives peeped out here and there between the branches, full of a promise of sweet gifts. The place seemed made for us, so we were soon lying at our ease beneath the tree's friendly shade in full anticipation of a pleasant rest after our fatigues, whilst the Askari set about pitching the tents.

On a sudden I jumped up, startled out of my slumber by a painful sting behind my ear, followed quickly by another on my nose. A moment later Schubotz, who had just been watching my antics with a broad grin on his face, set up a cry of woe. Wiese, muttering maledictions, fumbled about in the air with his hands, striking out suddenly this way and that. Then arms and cloths were waving and whisking about in every direction. "*Nyuki, nyuki!*" ("the bees, the bees!") was heard on all sides; and, just as if the swarming insects had waited for the battle-cry, the air was simply darkened by the vindictive little creatures. "*Nyuki, angalia!*" ("look out!") "*Nyuki!*" The war-whoop resounded all over the camp. A fierce conflict raged for a few minutes, and then all was over. Cries of pain were heard on all sides, and there was nothing but hurrying and scurrying and indescribable confusion. Those who endeavoured to get their burdens into a place of security abandoned the effort and threw them down anywhere, and in a trice the whole crowd were flying down the hillside with the angry bees in hot pursuit.



A MTUALE OF RANK





Others, and more shrewd, threw themselves down in the grass and remained motionless, and they alone were spared. Greatly disconcerted, stung all over, and decidedly "taken down" at this shameful defeat, we met together again on the lower hillslope, where the enemy was still disputing the field. Wiese had the excellent idea of getting the Askari along and shielding their faces and hands with woollen blankets, so that they might get the loads away. What a sight our camp presented! The loads scattered about, individuals lying about here and there stretched out in the grass, the dogs howling and limping about on three legs, the fowls dead! The air was still filled with myriads of bees that flung themselves angrily in dense droves upon the disturbers of their peace. The thick woollen armour, however, was almost sting-proof, and it was possible in a little while to bring the loads into a place of security. Yet it meant five hours' laborious work before a new camp was set up at a respectable distance from the first one. This little adventure gave us a lesson for the future. We never pitched our camp again under a *mti ya nyuki*, or bee-tree. The evening finished up with a violent thunderstorm, the first we had encountered in our wanderings.

Next morning the exhausted and suffering caravan met with a very strange surprise.

A procession was descending the slope with such solemn gravity and in so calm and imposing a manner that the chattering of our carriers ceased as if by magic, and we all gazed upwards mute and spellbound.

Surrounded by a large staff of young men, two ambassadors from Sultan Msinga were slowly approaching our camp. They strode along with an indescribable self-possession and dignity, like apparitions from another world, clothed in the exceedingly picturesque gala costume of the Watussi. Bussissi and Nanturu were fine upstanding men of great height, over two metres. They brought the Sultan's greetings and presents of numerous oxen, calves, sheep, goats, pigs, etc., and were commanded to escort us to their sovereign's residence.

The whole style and manner of their address and speech was very striking. One received the impression of being in the presence of an entirely different class of men who had nothing further in common with the "niggers" than their dark complexion. The demeanour of our carriers, who appeared equally impressed, confirmed our view. Having received a goodly number of presents in exchange, the two emissaries placed themselves as leaders at the head of our column.

By the afternoon we reached the Niawarongo, a tributary of the Kagera, and finished our march for the day, for the crossing of the small cattle caravans, which had now increased to the size of several hundred animals, and the transport of the numerous loads lasted until the darkness fell. As the water scarcely rose above a metre, the work was simplified by forming a chain of men across the river. In this way all the loads and animals were safely passed from hand to hand, and so to the opposite bank. We carried commissariat stores in abundance, and it was with a certain degree of anxiety that we observed day by day the increase in the number of live stock. The approach of a fresh commissariat caravan shortly after our arrival with another reinforcement of about thirty goats, which had to be assimilated with the main body, increased our anxiety. But it would be difficult to describe our irritation when we saw yet a third caravan coming down the hill-slope with another string of thirty goats, which, of course, made a further inroad on our stock of barter goods. All protests against our acceptance of the gifts were quickly met with "*Amri ya Msinga*" ("By order of Msinga").

The nearer we approached the Sultan's residence the larger grew the number of Watussi marching at the head of the expedition. We soon became aware that the Sultan was preparing a grand reception. In all the villages we passed the *Watuales* were absent, and to our inquiries as to their whereabouts we were answered by "Niansa." From all sides of the country commissariat caravans and herds of small cattle, led by Watussi, were heading in the same direction. It seemed as though the



THE SULTAN MSINGA OF RUANDA



Sultan had summoned all the leading men of the kingdom to his residence. Many approached us and fell in at our van. When acquaintances met, they greeted one another by putting their arms lightly round each other's waist or seizing each other's elbows. They remained in this position for a few moments. "*Amasho*," one would then say ("I wish you cattle"). "*Amasho ngurre*," replied the other ("I wish you women"). It can, therefore, easily be understood that expectation became more eager daily in our caravan; everyone looked forward to some remarkable and memorable incidents and was impatient for the moment when he should be able to see the man whose name was a household word in Ruanda, whose word was law, and by whose sovereign will everyone in the whole wide realm of Ruanda existed.

At length we reached the high-lying residence. Hundreds of Watussi advanced in front, increasing the already imposing dimensions of our caravan. A few high-born subjects were escorted by a number of carriers, bearing on their heads large baskets containing apparel and necessities of life for the "Master." Others even led a cow along with them, in order that a supply of fresh milk should be forthcoming.

Shortly before our entry into the residence we had the pleasure of meeting and greeting Captain von Grawert, who had not shirked the long journey from Usumbura, and had already been camping with the Sultan for some days. Our arrival was watched from a distance, from the hill summits and elevated spots, by thousands of people, quiet in demeanour. No loud noise and clamour, no crushing throngs, as had been usual elsewhere, signalled our entrance. The behaviour of the people compared most favourably with that of their kindred on the coast.

The intense eagerness with which the inhabitants of Niansa watched us, however, had also a special reason. The imagination of the people had been strongly stirred by the display of power which had been made, and which must particularly have been associated with my own personality. The immense supplies of provisions, the vast herds of cattle, which formed the presents

from the Sultan, and the presence of Resident von Grawert, who came to meet us in full uniform, all this had made a tremendous impression on the minds of the people.

"The great ox arrives with his calves," flew the message from summit to summit. "He has four arms and six legs," which was meant less as a description of my personal appearance than the impression upon the pastoral mind of my power and might.

Thanks to Captain von Grawert's good offices, my camp was now most carefully and excellently laid out in a broad space not far from the Sultan's huts. For we were awaiting a visit from the "Mami."

Before "the mighty one" appeared, however, we were witnesses of a highly diverting scene. Great crowds of Wahutu had gathered round the camp. Their curiosity being aroused, they had flocked around and stared hard at the new arrivals. It was evident, however, that Msinga considered these masses of people would spoil the effect of his approach, for suddenly two forms clothed in red togas appeared upon the scene, staring fiercely at the crowd, and swinging long staffs round their heads with very unmistakable intent, and they whirled them recklessly, with their full strength, into the midst of the people. But the latter were apparently familiar with this manœuvre, for at the same moment that the staff-bearers began to swing their weapons over their heads the whole mass was off in wild flight, and only a few laggards were struck. The square was empty in a trice. A few of the most curious who ventured to return had stones flung at them to drive them away.

A moment later the rolling of drums was heard from the palace, and then we were spectators of a unique drama such as could only be enacted far from the beaten path of the ordinary traveller.

The splendid figures of the Ruanda princes, with their sons, marching in pairs, headed the procession. Msinga's palanquin, which then left the gate of the residence, followed slowly. Everyone wore festive apparel, similar to that in which Nanturu and Bussissi had appeared. Their bodies were naked, but their hips were wound round by a narrow loin-cloth of tanned cow-

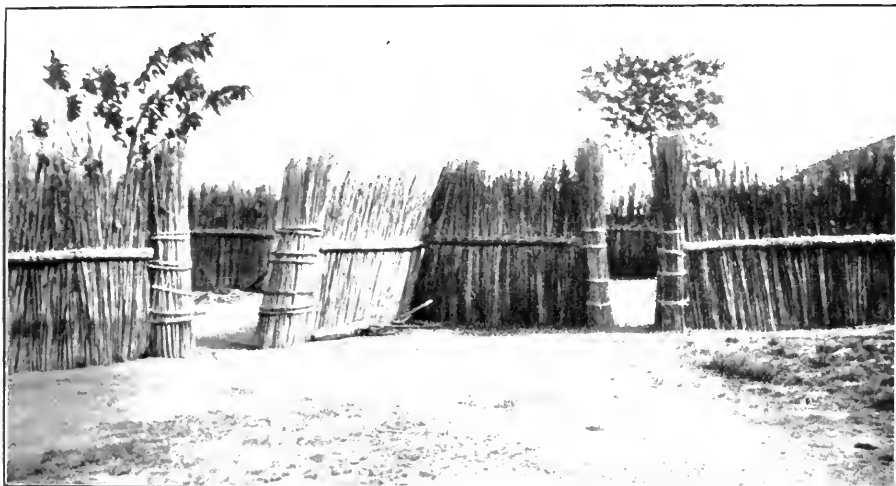








MSINGA'S ESCORT OF YOUNG WATUSSI WARRIORS



ENTRANCE TO THE COURTYARD, RUANDA



MSINGA'S BATWA BAND



hide in two transverse folds, from which a number of strings of otterskin or cowhide fell down to the ankles, which in their turn were adorned with various metal rings. On their heads were hair-combs reaching from ear to ear, in which a thin pearl chain lay gleaming. Long yellow strings of banana hemp hung down in a copious mass from their necks to their breasts, on which pearl ornaments of varying sizes, called *mitako*, were fastened. Their wrists were encircled with bracelets of copper wire and glass beads of various colour. Thus the train approached my tent with measured steps and quiet, dignified demeanour. Our guard of honour for the Sultan—a *Schausch*\* and two men—presented arms. The Sultan's litter, a long simple basket, the bamboo rods of which rested on the shoulders of Batwa people, was carefully lowered, and with the German words, "*Guten morgen, Euer Hoheit*," Msinga stretched out his hand to me.

The Sultan's figure, a little rounded in contour in consequence of his easy manner of life, exceeds two metres in height. One searches vainly at first for an expression of his vaunted intelligence, and an eye defect, coupled with strongly protruding upper teeth, emphasises the unfavourable impression. Yet the questions which he addressed to me, and to those standing round, whilst reclining near me in a long chair, touched on the most various spheres of interest and bore witness to his keen, logical power of thought.

After a lengthy conversation, which was carried on in the Suaheli tongue and which touched on many topics, Msinga begged to be allowed to deliver his presents to me. This was a moment of great political importance and keen suspense to Msinga and his friends, as well as to his enemies, as the refusal of any portion of such presents would be a sign on my part that I was desirous of assisting the pretender to the crown, a relative of Msinga's, and that I wished to overthrow the reigning "Mami."

A tremendous gathering of people had therefore assembled

\* *Schausch*, non-commissioned officer.

behind the chairs on which we were sitting with the Sultan, as well as opposite them, forming a lane, and awaiting the appearance of the gifts with painfully subdued excitement. And they came—came in endless succession. In front was a milch cow, whose calf was carried behind. She was intended to represent the greatest honour that could befall me. She was followed by ten oxen, with immense horns, and then a never-ending herd of goats. Flock followed flock, fresh contingents constantly rolling up and overflowing the cantonment. They were succeeded by an endless chain of heavy-laden Wahutu, with hundreds of loads, consisting of meal, milk, honey, butter, beans and bananas. After them appeared other trains bearing firewood—which was rare in the neighbourhood, and therefore particularly valuable. All these treasures were stored away in the camp, but the stock were driven into a hedged enclosure and placed under the guardianship of an Askari patrol. The procession had taken nearly an hour to pass by. Von Grawert himself, in spite of his lengthy term of office as Resident, declared that he had never before witnessed such an imposing spectacle.

The great and overwhelming fear of a refusal of the gifts having passed, Msinga's court breathed freely again. The visit was at an end, and with solemn farewells the sovereign entered his litter and was borne away, followed by a forest of five hundred spears. An ineffaceable impression!

The return visit in the afternoon was conducted with as much splendour as it was possible for a travelling caravan to offer. In addition to the ordinary gifts of stuffs and beads customary in the country, others were specially selected with the hope of "lightening up the countenance of the ruler" and rejoicing his heart. Any real equivalent to his own gifts was, of course, impossible. Preceded by Askari with flying flags, followed by all the "boys," each carrying a present in his outstretched arms, and with horns blowing, we entered the Sultan's courtyard, which is brightly and cleanly kept, and passed on to the palace, which is bordered round by a hedging of wicker-work and papyrus. After an interchange of the customary greetings and when we



WATUSSI IN GALA DRESS





HIGH JUMP BY A MTUSSI. (2.50 METRES)





had taken seats, the presentation of our gifts took place. In order to heighten the effect, we ordered the "boys" up singly with their presents, so that they might be displayed to the best advantage.

The ordinary presents did not in the least excite the attention of the potentate; they were put aside with indifference or divided immediately amongst his head men. The clanging of an alarum clock, which had to be explained in every detail, pleased Msinga rather more, and his satisfaction grew into rapture when I handed him my hunting knife and a cartridge pouch filled with ammunition to fit the sharpshooter rifle which had been lent him. But his enthusiasm reached its climax when I, with much solemnity, presented him with a saw, for which he had specially asked. After a few failures, he succeeded in sawing away the legs of my chair and operating upon everything else within reach with fairly good results. The "ministry," too, watched the experiments with the liveliest interest. The Askari, who were put through their drill and evolutions, gave considerable satisfaction, and this was heightened by the firing of a few rapid volleys.

The following few days were devoted to sports and athletic exercises, of which the high jumping of the young Watussi was a most remarkable feature.

A line, which could be raised or lowered at will, was stretched between two slender trees, standing on an incline. The athletes had to run up to this and jump from a small termite heap a foot in height. Despite these unfavourable conditions, exhibitions were given which would place all European efforts in the shade. The best jumpers, slender, but splendid figures, with an almost Indian profile, attained the incredible height of 2.50 metres, and young boys made the, relatively, no less wonderful performance of 1.50 to 1.60 metres.\*

With Weidemann's assistance I was enabled, by means of an excellent cinematograph apparatus, to obtain a few capital

\* According to a report by the German sporting authorities, the American world-record was 1.94 metres.

pictures of these noteworthy performances, and their reproduction in Germany roused great interest.

Prizes, in the shape of "gold" chains and similar objects, were then distributed. The "Tait diamond" ornaments which I had brought with me as special gifts of honour found great favour with the trinket-loving Watussi. Rings, stars, brooches, etc., were at length so coveted that my tent was in a continual state of siege, and I was obliged to keep my admirers at arm's length, so as not to exhaust completely my stock of "precious jewels."

We were also given an opportunity of seeing a set of dances which differed in no material respect in their character from those I had watched in the Masai steppe and amongst the coastal tribes. There was no musical accompaniment to the majority of the eleven different kinds of dance which we observed, such as is usual with all the terpsichorean exercises of the negro people. In spite of this, however, there was no lack of rhythm. These dances were based on ideas borrowed from the animal kingdom, and were executed singly, or in groups, accordingly. I remember one dance which was designed to illustrate the movements of a crane. We smile, no doubt, at these naïve native customs, but quite unjustifiably. We come across the same ideas in our highly cultured Europe, for what is the clog-dance of the Upper Bavarian peasants but an imitation of the song and motions of the blackcock?

The war-dances, however, were of a different nature. These were carried out in groups, and we were able to distinguish different phases. Two parties would rush to attack each other, brandishing long rods and spears. Then a number of warriors would dance in a circle around a man who was bounding into the air with his arms held close to his body. Yet the movements were never wild; they never degenerated into those grotesque leavings and war cries, or cadenced groans, so often met with among savage native tribes, but were always measured and dignified.

Each of the dances had been well practised in the presence



HIGH JUMP BY A MTUSSI



DANCE OF WATUSSI BOYS





A WATUSSI DANCE



THE WATUSSI CRANE DANCE



of one of the great *Watuales*. The Sultan himself had assumed the stage management of the joint dances of the chiefs. At the conclusion of each new phase he never omitted to question me as to which group had best satisfied me, and I took good care that my replies should be as agreeable as possible to the ears of the ruler.

Then a number of young Watussi exhibited their remarkable skill in javelin throwing. Taking a run of ten steps, bending backwards almost to the ground, they hurled their javelins up to almost prodigious heights and with such impetus that two of the spear shafts broke in the air from the vibration. It was the same with the shooting matches with bow and arrow, in which the trunk of a banana tree was used for the butt. The shooting average at fifty metres was really good. Great strength is required to bend the bow correctly, and to draw it to its fullest extent long years of practice are necessary. The elasticity of the bow, which is from 1.30 to 1.50 metres in height, is extraordinarily great, and with the bow-string drawn to its fullest extent the arrow flies a distance of two hundred paces. Running races, too, were organised, but owing to the lack of the necessary measuring instruments I am, unfortunately, not in a position to give the times. I have no doubt, however, that in this department also the European records were at least equalled.

The effects of a gramophone performance, such as we had offered the *Watuales* some days before, were curiously varied. Some listened and presented a most stoical indifference, others opened their eyes till they were as large as saucers, and the faces of others, again, were convulsed with delight. We had occasion here to confirm our former impressions—namely, that our military marches aroused no interest, that unintelligible interlocutions caused general amusement, and that songs in a female voice, especially when they attained the higher notes, excited screams of laughter. Laughter, however, was a slight source of trouble to the Watussi. It was not supposed to be “good form” to laugh, and it was intensely diverting to watch the frantic efforts made to conceal it, hands being placed quickly

over mouths in order to hide any indiscretion. Then, after the merriment had passed, the delinquents would gaze quite gravely at the gramophone horn, until a suspicious twitching at the corners of the mouth rendered a fresh manœuvring of hands necessary.

The crowd continued to grow denser round the instrument, for the safety of which I was beginning to become nervous, when his serene highness suddenly hurled his long staff into the arena, making the splinters fly, and ending the séance.

The Sultan being also desirous of seeing the white men do some shooting, an iron pot was placed on a stake and set up at a distance of 150 metres. As I, as well as others of my company, were successful in hitting this tolerably easy mark several times in succession, the plaudits from the crowd were great, and innumerable hands were stretched out in congratulation.

The Sultan, fearing that he would be beaten if he tried his skill from the same point, approached within fifty paces of the mark. His efforts were not exactly brilliant, yet every company-captain would have been delighted with the faultless way in which he made ready and the precision with which he carried out all the movements; he was like an infantry man at the rifle butts.

The Sultan made me a further present of several objects of native industry. Yet the purchase of ethnographical material met with obstinate opposition. However, after some persuasion, Msinga gave his permission for goods to be bartered, and forthwith the whole population hastened from all quarters to enrich themselves by high prices for their wares. It was principally through Wiese's efforts that we were enabled to get together a Ruanda collection such as has never before been seen in Europe.

At Niansa we received a visit from Father Class and Father Dufays, of the mission station of the White Fathers, who came along in company with Dr. Czekanowski. Long years of intimate intercourse with the natives enabled them to give us much valuable information relative to the inhabitants of Ruanda. The day before they had paid us a very delicate attention in





WATUSSI DANCES





WANJARUANDA SPEAR-THROWING



the shape of a most welcome parcel of fresh tomatoes and vegetables. This was a great treat, our enjoyment of which could not be adequately appreciated save by Europeans who had suffered, like ourselves, from long deprivation of such luxuries.

If we were going to fulfil satisfactorily the various tasks we had set ourselves, it was now high time that we were once more on the move. So we resolved upon an early departure.

The most singular fact associated with our visit was that we never once came face to face with a Watussi woman. It appeared that they had been carefully guarded in their huts the whole of the time, so that they might not meet the eye of any of the "whites."

When we took our leave of the Sultan, at early dawn on the 12th of August, it was with a certain amount of satisfaction. We had been afforded an insight into the court life of a negro prince and favoured with a display of his power such as no one had ever experienced previously, or would probably ever experience again. When the illimitable power of this Sultan has receded before European influence, and when busy throngs of traders encroach upon the haughty aloofness of this most aristocratic of all negro tribes, and the white man's herds graze in its pastures, then we shall be able to appreciate to the full the value of our remarkable experience.

Our last day with Msinga brought about a decision which proved later to be a most happy one, and was due to Captain von Grawert. He had told our botanist, Mildbraed, of the wealth to be found in the forest of Rugege, which clothed the marginal mountains of Lake Kiwu between Niansa and Ischangi. He spoke of its tree-ferns and of its masses of begonias, and strongly advised him to make an excursion in that direction. As Schubotz, the zoologist, was inclined to join in, this meant a further splitting-up of the expedition. So while the main body marched on with von Grawert towards the eastern bay of Lake Kiwu, and met with the events which I shall describe in the final pages, the two biologists traversed the Rugege forest towards Ischangi, at the southern end of the lake, whence Grawert was to fetch them

off in boats when he visited that part later on a tour of inspection. I will now let Mildbraed report in his own words upon their journey, which, though of short duration, was rich in the results:

"After the breaking-up of the main caravan, we marched off towards the south-west on the 12th of August. First we bade an affecting farewell to Msinga and our friends Nanturu and Bussissi, who had appeared to us like forms from a mythical land on that memorable morning in the camp before the Niawarongo. Msinga gave us, as guide and quartermaster, a young Mtussi named Miniago, a brother of the *Mtuale* of Ischangi, who was to be permitted to return to his home; common report had it that he had been summoned to the court to answer for various follies. Certainly, the young man's general appearance was not one to inspire very great confidence. He was long and lean, but very coarse-boned. After the many fine-looking *Watuales* we had seen, his face appeared of very common cast to us, and a woollen blanket which had once been red in colour did not do much towards heightening his charms. Our lack of confidence, however, decreased by degrees, for he proved himself an excellent courier.

"I doubt whether travelling in any part of the world is pleasanter than in Africa, with good Wanjamwesi carriers, but certainly nowhere in Africa is it more so than in Ruanda, when accompanied by a Mtussi. A short *shauri* (consultation) between the leader and the *mtuale*, or subordinate chieftain of the district, secures everything required in the way of provisions or other pressing need. Whenever I have had to select a place for encampment, I have always done so with great care and thought for special details. That water should be close at hand, that the site for the tents should be level and secure from inundation by storms, that there should be plenty of shade and yet a clear, free view of the country be obtainable, are all conditions with which a camping place should comply if comfort is desired after a march. Miniago relieved us of all trouble in this respect, and



WANJARUANDA BOWMEN



MSINGA SHOOTING AT THE TARGET





revealed a perfect genius for pitching upon the exact spots suitable. It was only necessary for us to indicate the direction in which the tent was to be pitched, with the stereotyped '*mlango huko!*' ('door there!') to be assured of finding ourselves snug for another day.

"And now to the west, towards Lake Kiwu! The scenery differed entirely in character from that to which we had grown accustomed during our long sojourn at Lake Mohasi, and reminded us more of South Mpororo. Whilst the country round Mohasi appeared to be a maze of fairly lofty ridges, divided by broad valleys—a tableland traversed by numerous broken rifts, characterised by no typical mountain masses—the landscape south of the Niawarongo, about a day's march from Msinga's residence, assumed a different aspect. Numerous isolated mountains rose above the undulating tracts of land, not imposing at all in their height, but more hill-like and often strikingly regular in their conical form. This mountain scenery, however, came to an end on the first day of our march. On reaching the little river Mhogo (which, united with the Rukarara, forms the Niawarongo) the Shunda mountain group rose up in front of us like an advance post of the Kiwu Mountains, spreading over the broad papyrus valley and falling away in picturesque steep, bare declivities.

"From our line of route one gained quite another impression of the margin of the rift-valley to that which the traveller gains who goes from Mohasi or from Mpororo to the lake. On that route the road rises steadily and imperceptibly until it begins to slope down to the 'ditch,' but on our route from the east the marginal ridges appear like fair-sized mountains. Fond as I am of mountains, I must confess that when I was confronted by the steep and rugged-looking Shunda the idea of having to surmount it seemed to promise so little pleasure that I felt like pitching tents at once. But Miniago led us round the base into the valley of the Lukondo, where we camped in the shade of the mighty Shunda, on its southern slopes, which were profusely overgrown with bananas. At night we were favoured with an

enchancing picture: a grass fire broke out on the ridge-combs, silhouetting the mountains against a line of fire. The temperature was a sharp reminder that we were in the vicinity of mountains, for our thermometer registered only five degrees in the morning.

"We marched up the valley of the Lukondo, which at this point was strikingly reminiscent of an Alpine brook, at an elevation above the tree limits. Its waters rushed foaming along between the grassy slopes, forming diminutive falls over the blocks of stone lying in its bed. Then the valley widened out into a broad, richly cultivated basin, enclosed by numerous summits, curiously reminiscent of a piece of stage scenery. Here we found a beautiful path, which led us about half-way up the basin to a pass whence we enjoyed a view of some of the higher mountains. We then descended to the Rukarara, the other great source of the Niawarongo, the young Nile, though at this spot it is merely a mountain spring, bounding and foaming in an exuberance of youthful glee over the pebbles and stones. We soon left it again, and turned to the south-west, passing through a short, narrow valley, at the end of which we pitched our camp and enjoyed a magnificent view of the country near by which we had travelled and of the forest hills we had surmounted. A very stiff piece of climbing, however, still lay in front of us before we attained the Rugege forest.

"On the third day of our march we were confronted by some mountains, whose bold, rugged forms were to us very imposing, for our appreciation had not then been blunted by the sight of the gigantic volcanoes. At a saddle-shaped pass—Katandaganja—the main climb was accomplished, and we soon came to the watershed that runs between the Rukarara and the Kiwu, and between the Nile and the Congo, the road rising gradually, and sloping again over the long-stretching ridges down to Lake Kiwu. What we had seen at the Toteninsel, Bukoba, in a small way, and was repeated on a larger scale at Kiwu, showed itself again here—a steep, rough, and rugged descent towards the east and a gentler declivity towards the west. The Ruanda plateau in a similar



A MTUSSI, MHUTU, AND MUTUA  
THE CHIEF INHABITANTS OF RU'ANDA. (FROM A PAINTING BY W. KUHNERT)



manner rises suddenly over South Mpororo, and the marginal heights to the west of Lake Kiwu and Lake Albert Edward break off equally abruptly towards the lakes.

"We had now to descend the south-west slope of Katan-daganja, face to face with the peak of Ssekera, which rose up before us like a colossal cone. At its foot the road wound round another mountain mass, on the southern side of which we proposed to camp. The guide and a number of the carriers having pushed further ahead, however, we crossed one brook more, which was sparkling with clear crystal water, and pitched our tents on the opposite side on the slope of a hill. From a scenic point of view this camp had a greater charm than any we had hitherto fixed upon. Below us was the valley with the little brook; all around us lay innumerable gentle hill slopes and ridges leading to a noble green mountain mass; to the right, in the background of the picture, the summit of Ssekera, which from this spot looked like a broad, massive colossus—with the hills covered with a luxurious carpet of dark green brake fern, from which small pea-fields stood out in sharp contrast in emerald green splotches round the last scattered settlements at the entrance to the forest.

"Brake fern? Certainly; exactly similar to that which grows everywhere in Germany. We had already met several very pleasant homely species among Flora's children—blackberries, clovers (*Trifolium simense* and *usambarense*), willow-herb (*Epilobium*), a dog's tongue and sky-blue forget-me-nots (*cynoglossum*), a cock's head (*Plantago palmato Hook f.*), very similar to our big cock's head (*Pl. major*), etc. These plants showed us that we had gained that region of mountain flora which evinces such striking uniformity on all the high tablelands of tropical Africa, from Abyssinia and Kilimandscharo to the far-off Cameroon Mountains in the west.

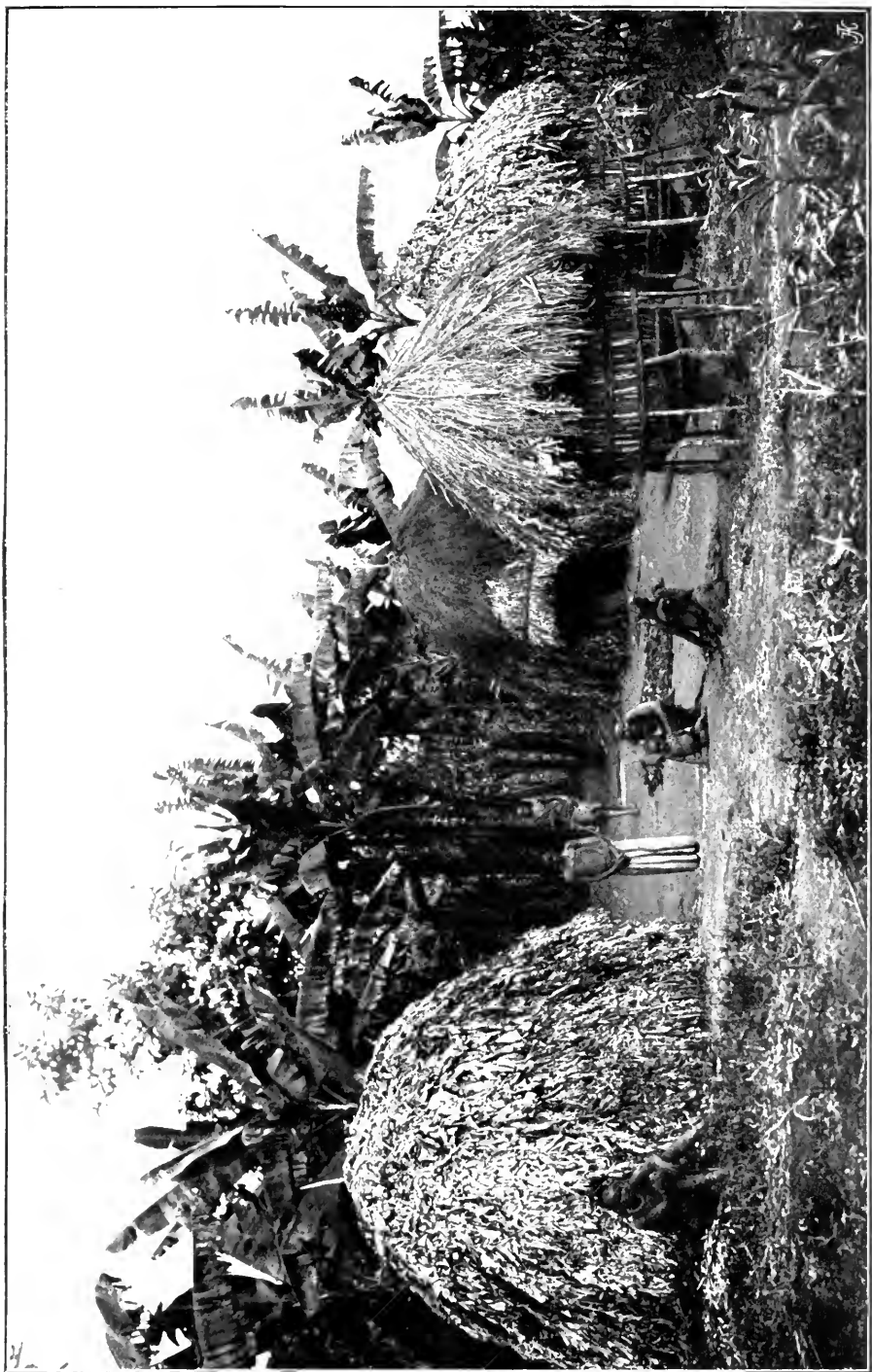
"This mountain flora seems as it were to cap the vegetation of the steppes and the tropical forest. The bracken was richly interspersed with flowering herbaceous plants and shrubs, and the whole scene was full of charm for the botanist. One growth, however, would have awakened the interest of the veriest dullard

at botany—the *lobelia giberroa* Hemsl., which rises up like immense candles, often to the height of a man. A powerful hollow stem, more like a trunk, bearing narrow, reversed, spear-shaped leaves, 40 to 50 centimetres in length, crowded together rosette-like, and above these a long, thick spike of green, or pale blue blossoms, resembling immense cylindrical sweepers. The measurements of one species were: leafless lower stem, 2.30 metres; leafed part, 1.25 metres; spike, 1.85 metres; together, 5.40 metres. Later I found specimens of more than 7 metres at Kwidschi. When I first espied these strange shapes in the gorge at Katandaganja my heart beat fast at the realisation of a long-hoped-for sight, a feeling that is comparable only to that of a hunter at the first sight of some rare game. Later on their appearance was quite an indifferent everyday occurrence, for they are typical phenomena in all the mountainous districts from Lake Kiwu to Mount Ruwenzori.

“Charming as this fertile and luxuriant green wilderness of brake-fern was, however, the pleasure it afforded was marred by the thought of its origin. Where it now covers the mountain-side, not long ago there grew a proud forest of noble trees, which were ruthlessly hacked and burned down to make room for a few miserable pea-fields. The immediate effect of this wilful destruction could be seen in all its mournful nakedness on the edge of the forest—an utterly devastated zone. A few isolated giants, whose lives had for some reason been spared, still towered aloft; some still resplendent in all their beauty, others stretching out their sterile, fire-blackened, or weather-blached and withered trunks as if in complaint to Heaven.

“In further evidence of this fact I quote the following passage from a report of one of the members of the Urubengera Evangelical Mission at Mecklenburg Creek, which happened to fall into my hands:

“‘When I arrived at this forest (Bugonde) I experienced a certain feeling of sadness. You must know that certain “patriarchs” dwell here—one always more ancient and hoary-headed than the others—who systematically devastate all that is



A VILLAGE IN RUANDA







A MHUTU UMBRELLA



left of the little wood. They fell the best trees, hew down the bamboo-cane, and burn away the undergrowth; consequently, the few trees which are left standing perish also. They then till the land and sow it with peas, and proceed to impoverish Ruanda by treating further tracts of forest in the same fashion. If the people settled on this land thus made arable and fit for tillage, there would be some sense in it; but simply to burn a bit of forest away to plant a few peas, and then destroy it further, bit by bit, causes everyone regret, even though they be not experts on afforestation or silviculture, more especially in a country so lacking in trees as Ruanda.'

"I cannot vouch for the existence of these 'patriarchs,' but as to the devastation of the forest, the missionary, Roehl, has certainly not misrepresented matters.

"The forest received us into its arms, the mountain forest of Rugege, as beautiful as any in Usambara, or on the Uganda Railway, or on the Mau plateau; glorious in its splendour and its exuberance, yet almost oppressive in consequence of its profusion of vegetation entirely new to us, which we at first nearly despaired of mastering.

"As we knew we could not be far away from the upper source of the Rukarara, we decided to camp in its vicinity. We soon found it, a clear stream flowing through marsh and woody dingle, perhaps only some two or three metres broad and thirty centimetres deep. On the further side we saw a hill covered with a sort of steppe grass, fairly level at its base. At first we thought of camping there, but as we had a vivid remembrance of the cold on the previous night, and we feared the strong radiation in the open space, we clambered up the hill and pitched our camp on the edge of the forest under the protection of the trees. There we rested—some forty metres above the cradle of the sacred Nile and some two thousand metres above the level of the sea—and gazed out into the brilliant moonlight towards the mountain forest, in which the tops of the trees showed up clear and distinct in the silvery light. Then we looked down at the delicate shrub lacery that embroiders the course of the Rukarara and up

through the light ash-like foliage of the hagenia, which spread over our table, to the nocturnal sky, from which the full moon was shedding forth its rays as cool and clear as on a winter's night at home. And no sounds around us except at times a bush-buck giving tongue, and the chatter of the carriers, gossiping and freezing round the fires like ourselves. Yes, freezing! I often awakened during the night from sheer cold in spite of a sleeping costume consisting of woollen stockings, under-clothing, pyjamas, cloth cap, and two camel-hair blankets for a covering. In the evening we drank grog made of tea and whisky to warm us up a little. How joyfully we greeted the sun when he brought us a little warmth—never more than fifteen or sixteen degrees atmospheric temperature—and left us cold again when he sank once more behind our camp hill at about four o'clock. When Grawert and Kandt were in this part their washing water froze, and when the latter was almost at the same spot at the same time of year he saw the grass and the trees thickly covered with hoar frost. And that was in an African virgin forest two degrees south of the Equator!

"Now let us turn our eyes away from the slightly elevated camp quarters, from which we could obtain an extensive panoramic view on one side—to the forest, and endeavour to learn a little of its features. In comparing it with a German forest of leafy trees two factors stand out clearly, namely, the considerably greater variety and the entirely different ages of the trees. From this it follows naturally that the colouring of the leafy crowns is more diversified, though, generally speaking, more sombre (saving, of course, the striking autumnal tints of the German forest), and that the height of the trees is very different. The impression of the closed-in canopy of foliage under which each single tree disappears is missing; the taller, fully grown trees stand comparatively free, so that their crowns are either quite separated or scarcely come into contact with each other. Thus each one conveys a separate idea, as it were, and the individuality of each tree stands out more sharply. Added to this there is a peculiar characteristic, which is most apparent in



THE CARAVAN ON THE MARCH IN RUANDA



A GROUP OF WATUSSI



a common but beautiful olive tree, *Olea Hochstetteri* Bak. If such a tree be looked at from the side or from below, it is seen that all the larger boughs, and even the larger branches, stand out quite distinct to the eye, all the minor foliage crowding itself together on the thinner branches at the periphery of the crown. The form of such a crown might be remotely compared with the inflorescence of an umbrella plant. To complete the picture mention must be made of the beard-moss on the crown, which, though appreciable, does not accumulate to the extent of giving the impression of 'dejected greybeards,' as it does, according to Volkens, on the lofty trees of Kilimandscharo.

"For readers who are familiar with the African flora, the more important trees and tree-shrubs are here enumerated approximately to the frequency with which they are met: *Olea Hochstetteri* Bak., *Macaranga kilimandscharica* Pax, *Syzygium parvifolium* Engl., *Olinia Volkensii* Gilg., *Carapa grandiflora* Dawe et Sprague, *Neoboutonia macrocalyx* Pax, *Psychotria ficoidea* K. Krause, *Galiniera coffeoides* Del., *Xymalos usambarensis* Engl., *Bersama spec.*, *Polyscias polybotrya* Harms., *Cornus Volkensii* Harms., *Ochna densicoma* Engl. et Gilg. *Symphonia globulifera* var. *africana* Vesque (more on the margin than in the deeper parts of the forest), *Peddiea Fischeri* Engl., *Nuxia usambarensis* Gilg., *Rapanea pulchra* Gilg., *Pygeum africanum* Hook f., *Maesa Mildbraedii* Gilg., and finally *Hagenia abyssinica*, *Agauria salicifolia* Hook f., *Ilex mitis* (L) Radlk. var. *kilimandscharica* Loes., which prefer the forest clearings. The following were observed only to the west of the watercourse: *Podocarpus usambarensis* Pilger, *P. spec.*, *Parinarium Mildbraedii* Engl. We also collected towards the west of the forest *Ericaceæ* *Ficalhoa usambarensis* Engl., and amongst sparsely growing vegetation *Faurea usambarensis* Engl. This find was very interesting from a botanical-geographical point of view, as hitherto it has only been encountered in Angola.

"Although the forest, as seen from above, bears quite a different appearance from the forests of Germany, it has a still more unfamiliar aspect when viewed from the interior. There is nothing

which recalls the colonnades of a beech forest or of a forest dome. To a certain extent this wood is impervious to the sun's rays. The whole space from the ground to the tops of the trees is filled with an overwhelming mass of green; no wood is to be seen, but only soft, luxuriant foliage and soft, herbaceous stems. There are few shrubs in the true sense in the brushwood in which the younger branches have lignified; on the contrary, a profusion of permanent growths which only lignify in their main stems may be mentioned, among which beautiful labiatiflorous specimens such as *Pycnostachys* are prominent. Lovely species of *Vernonia* with purple and heliotrope blossoms, reminding one of the *Eupatorium cannabinum*, large yellow *Senecio* and luxuriantly blooming *acanthaceæ* (*Mimulopsis*) are often found interlaced with other growths, helping with their soft, sappy leaves to swell the general wealth of foliage. The most beautiful of the twining plants was probably the reversed leaf growth, *Begonia Meyeri Johannis*, named in honour of Hans Meyer, which with its shining, fleshy leaves and gorgeous yellow-white blooms is an ornament to the underwood. The most conspicuous, however, is an amaranth (*Cyathula spec. ?*), which unfortunately I never saw in bloom; it forms great thickets and bowers, climbs high without being exactly a liana, and hangs down again in dense, broad clusters or festoons, making the undergrowth perfectly impenetrable.

"Wherever this tall brushwood leaves a little space, however, the ground is covered with ferns, blossoms, smaller amaranths, and graceful blooming *Coleus* and *Plectranthus* species.

"Incomparably rich and luxuriant as this forest is, it would yet have something oppressive about it in its exuberance if it covered all the hills and valleys. The chief charm of the Rugege landscape consists rather in its variations of wood and glade, its grassy slopes which clothe the lower valley, its dells and dales, and the well-watered fens and meadows which lie alongside the brooks and streams. The vales and meadows as Kandt saw them must have an indescribable charm: when thousands of stemmed lobelias spring up from the grass—like gigantic candles, and the green valley is buried for miles under the heads of millions of





A MNJARUANDA YOUTH



IN THE MOUNTAINS OF RUANDA



white or silvery rose-coloured immortelles (*Helichrysum*). We only found withered stems of lobelia, and the peculiar leaf-rosettes of the young plants, which were not then in bloom. We were compensated in a small way by finding some heather strewn over with rose-coloured blossoms (*E. rugegensis* Engl.).

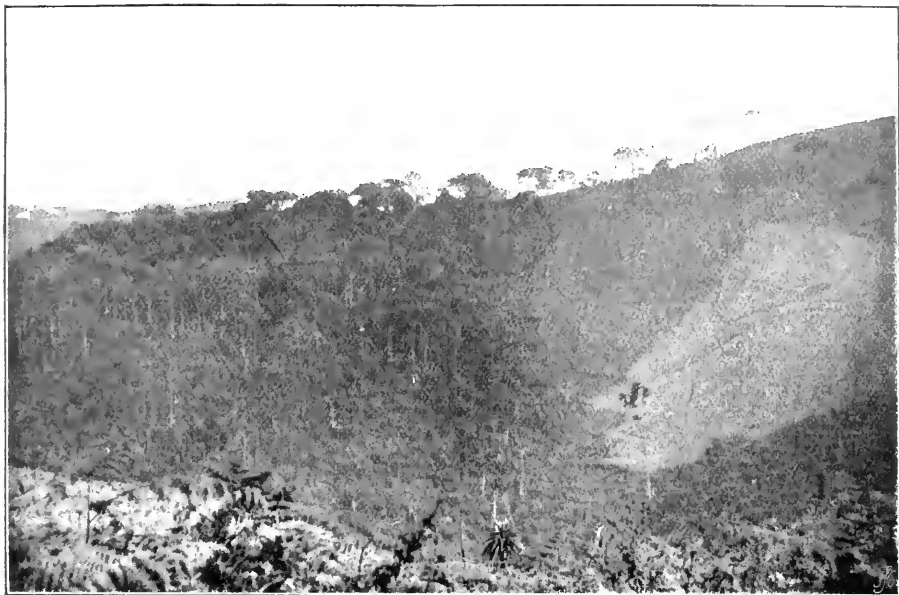
"The brooks themselves were adorned with a species of *Alchemilla* (*Rumex Steudelii* Hochst.) and the graceful *Hypericum lanceolatum* with extraordinarily fine foliage and large yellow flowers, and here and there were to be seen picturesquely and irregularly ramified stocks of *Hagenia abyssinica*, the Abyssinian Kosso tree, which with its pinnate leaves is reminiscent of the so-called 'Tanners' Sumac.'

"Unfortunately we were only privileged to remain one week in the Rukarara camp. Our stock of provisions, for white men and carriers alike, was seriously diminishing. It is true that we might have sent for a further supply from Ischangi, but that would have meant prolonging our stay to such an extent that the general plan of the expedition would have been upset. You may imagine what it means to the collector to have to leave so soon a mountain forest which belongs to the richest, most luxuriant, and fertile forest regions in all Tropical Africa. Certainly our hearts were not brimming over with joy when on the 23rd of August we bade farewell to a place that had become so dear to us. In spite of that, however, our botanical finds were very satisfactory, and the forest trees were especially well represented (by various material) in our collection. This was only rendered possible by my having botanised 'with telescope and rifle.' From the paths in the forest or from some elevated standpoint I would range along the crowns, aided by a good prism glass, and when a rich-bloomed but somewhat sparsely branched bough was found, I would let fire. I used nickel-coated, lead-nosed bullets of the calibre of the military rifle. In favourable cases the bough came away after two or, perhaps, three shots; but when, although broken, it still hung by a few shreds of fibre to the trunk, the expenditure of ammunition was considerable, and the marksman fell into mild despair. In any case, it was the only way possible

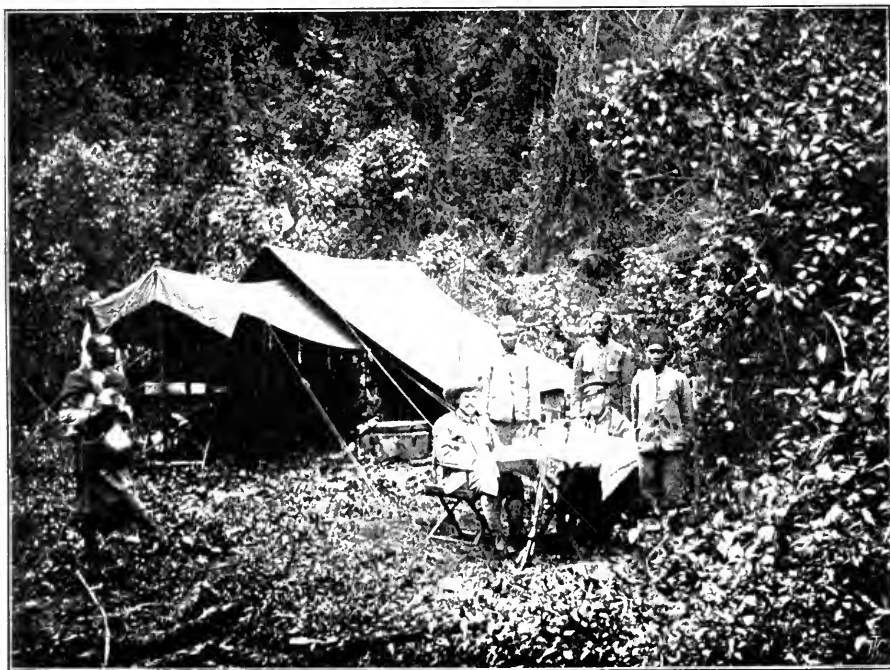
when on excursions, and also when on the march with the caravan, of obtaining material from the loftier trees, and that, too, of excellent quality and in rich profusion. Of course, it was necessary to select a bough that in its fall would actually reach the ground, and not be left hung up at the top or caught by the smaller trees. A sharp look-out for blooms and fruits lying on the ground was also kept in the same manner as tracks are examined. The shots certainly caused a fair amount of splintering, and the specimens suffered in consequence of the small calibre and the excessive perforating power of the weapon used. Excellent results would doubtless be achieved with large calibre explosive projectiles fired from an elephant rifle with a relatively weaker charge of powder.

"The zoologist is even less advantageously situated than the botanist when a stay is cut too short. We did, indeed, see bush-buck, elephants, leopards, long-tailed monkeys, and colobus apes—saw them and partly tracked them, but never got within range. Our prizes in the way of birds and invertebrates were more satisfactory. At dusk, high above the valley, flocks of grey parrots would whistle melodiously in their flight to their roosting places, and a splendid touraco (*Ruwenzorornis chalcophthalmicus*), a new species, closely allied to the *Ruwenzorornis Johnstoni*, occasionally filled the forest with a manifold variety of cries. On the march, too, by a lucky shot Schubotz brought down a pair of giant touracos (*Corythaeola major*), similar to the grey parrot variety belonging to the West African fauna.

"After saying farewell to our Rukarara camp we soon crossed over the watercourse which lay between it and the brooks flowing to the Kiwu, between the Nile and the Congo. Our way led into the valley of the Schampf, in which for the first time in the Rugege Forest we saw the *Podocarpus*, those splendid trees with their branches stretching up perpendicularly and uniting into a pyramid-shaped crown. It was a hitherto unknown species, but as I brought away neither blossoms nor fruits, their determination is uncertain. We ought to have camped in this beautiful valley, then I should have been enabled to collect abundant *Podocarpus*



AT THE EDGE OF THE RUGEGE FOREST

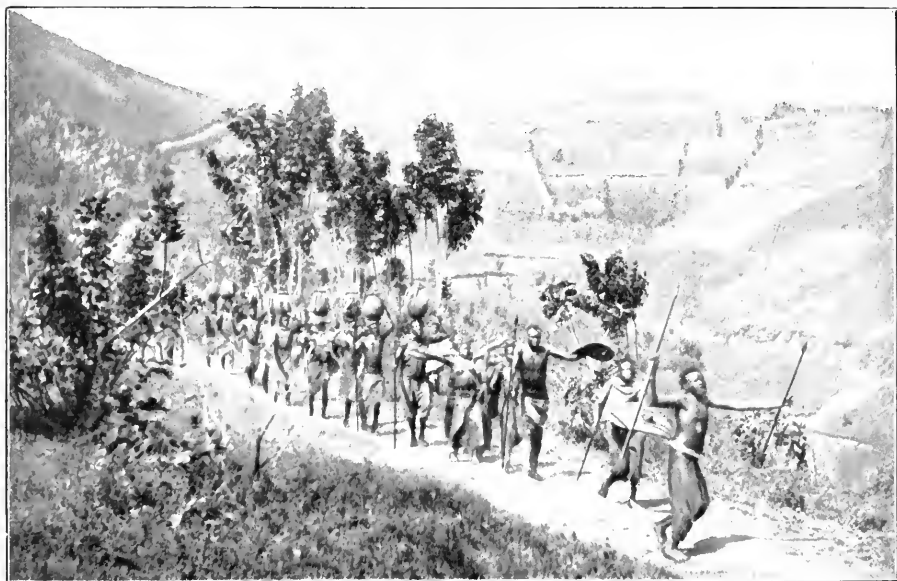


SCHUBOTZ'S AND MILDBRAED'S CAMP IN THE RUGEGE FOREST





LOBELIAS IN THE RUGEGE FOREST



WANJARUANDA BRINGING *POMBE*





and much other matter, but as things were we were following a leader whose wish it was to get out of the wood. Miniago had gone on in front 'to look after provender,' as he said; but, truth to tell, his chief idea was to escape from the 'wilderness,' that district which causes the inhabitants of the colonised parts of Ruanda, to say the least of it, a feeling of uneasiness. In addition to this, as we had run out of water we were compelled to march much further than was originally intended. The most regrettable part of it was that we were approaching very near to the western edge of the forest, and thus lost much valuable opportunity for collecting whilst in its depths. We arrived at a small brook at last, and after much difficulty found space in which to pitch two tents in the narrow, thickly vegetated valley, surrounded by dense, lofty, tropical forest. It was very romantic, but very confined.

"Next day we emerged from the forest, travelling through a sparse vegetation of a willow-like proteaceæ (*Faurea usambarensis* Engl.), which assumes considerable dimensions there, and then into the belt of brake-fern and forest desolation. At the little river Nirahindi we fell in again with Miniago. He had procured abundant provisions, with palm juice for the carriers, and had struck another lovely camping place. We were three days' march from Ischangi at this spot and quite close to Kiwu; in fact, we caught sight of the lake on the first day. We had just crossed another hill when a view of such beauty presented itself to our astonished eyes that we were compelled to stop and gaze at it. The mountain ridges and hills dwindled away before us, receding ever farther and lower, to jut out again like peninsulas on the horizon and to rise up like islands from a pale-blue, silvery shimmering surface—the jewel of African lakes. Tanganjika may, perhaps, on the whole appear more majestic, but for a combination of comeliness and magnitude, of peaceful bays and deep fjords, of blest isles and sky-towering mountains, none can rival Kiwu.

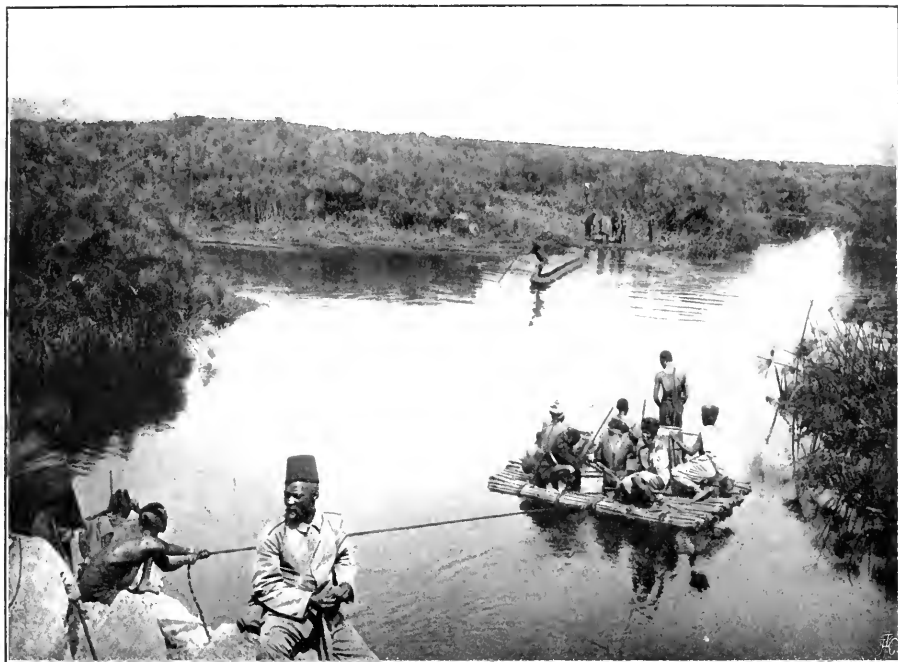
"We marched parallel to the south-east coast of Lake Kiwu, for the most part in view of the lake, camped at the brook

Kalundura, and then, for the last time before reaching Ischangi, at Katosoma. We here encountered the first spell of rain which we had experienced since starting away from Lake Victoria, apart from an insignificant shower at Lake Mohasi. The tents had to be pitched in the rain; the cook had to perform his task in the rain; and our souls were filled with gloomy forebodings of the lesser rainy season which was approaching, so spoilt had we become with the uninterrupted fine weather of the dry season! In the evening an Askari reached us bearing a letter from Grawert, in which he bade us get along to Ischangi as quickly as possible, as he was desirous of making a further move.

"We arrived at the pretty outpost station on the 27th of August. Near the end of our journey our way had led us past a dilapidated hut under a giant solitary tree, the hallowed resting-spot, 'Bergfrieden,' where Kandt, the poet of Ruanda, had dwelt, and also past a lonely grave in which Professor Lamp, the astronomer of the Kiwu Boundary Commission, was laid in his last resting-place far away from home."

Whilst the events just described were taking place, Wiese and I were pushing on towards Kiwu, accompanied by Captain von Grawert. On our first day's march out from Niansa we found our wealth of livestock a decided encumbrance! *Embarras de richesse!* A broad, deep swamp had to be crossed, and our smaller and weaker goats stuck fast in it. To pull out the exhausted animals involved considerable delay, and thus cut short our day's march. It was late at night before the caravan, with its complement of human beings and cattle, was fully reunited. In order to avoid a repetition of such an incident, we sent the herds along a few hours in advance of the caravan, in companies of from two to three hundred.

The following day's march was again greatly delayed while crossing the Niawarongo—which we passed here for the second time—and our stock was again to blame. Although, thanks to our new tactics, the obstruction occurred earlier on the route, several hours elapsed before the main party was landed in safety



CROSSING THE AKANJARU



MIHUTU WOMAN MAKING POTTERY



on the further side, partly by means of canoes and partly by hand labour.

The camp had to be set up close to the bank, and was nearly encircled by the winding of the river. This was a circumstance of bitter regret to us on the following morning, as the whole river valley was filled with the densest mist, it being only possible to see a few paces off. The thermometer indicated six degrees (Celsius), and both men and beasts suffered severely from the cold. Still the sun, which was emerging from behind the mountains, and the fatigue of the toilsome mountain journey thawed us again, and by the time—about noonday—we had reached Kagira, where Dr. Kandt had enclosed an estate, the hardships of the early dawn were forgotten.

Kagira is a back settlement differing in very slight respects from an aboriginal village. It lies deep down in the valley, close to the narrow mountain stream Mashiga, surrounded by hills. Vainly one wonders why Kandt chose just this one particular spot for his abode, though it is said that the interest attaching to the tomb of Sultan Msinga's father, Luabugiri, which lies close by, was the attraction that kept him there.

At noon next day we sighted from afar the deeply indented fjords of Lake Kiwu. After a steep descent from the hamlet of Bujonde to the banks, we encamped under shady trees on the eastern point of the lake. It was a most extraordinary coincidence that the first inlet with which we came in contact had been christened Mecklenburg Creek by Dr. Kandt some years previously.

The lake is conspicuously northern in its character on the eastern side, for the bays and creeks cut deeply into the land, winding between the towering mountain sides, which are sometimes 1,600 metres in height.

The air appeared disproportionately warm to us after the temperature to which we had previously been accustomed, but the water, which permanently averages about 25 degrees (Celsius), exercises a very beneficial influence on the surroundings. Crocodiles are not met with in Lake Kiwu, so we lost no time in

abandoning ourselves to a thoroughly enjoyable swim, a pleasure which had long been denied us.

Our twenty-three boats—dug-out canoes—manned by six or eight rowers, according to size, lay concealed in the sedgy reed-grass waiting to bear us across the lake to Kissenji. The boats are approximately ten metres in length, with a small draught, and are very narrow. There is barely sufficient room on the seats for the two rowers, who drive the canoes through the water like arrows with their powerful arms, using heart-shaped, carved paddles. As the excessively narrow boats naturally allow only the most indispensable loads to be water-borne, the main caravan had to direct its steps to Kissenji along the eastern coast under the leadership of Czechatka and Weidemann.

In the evening, which turned out clear and still, I made a short farewell excursion alone to the centre of the lake in a folding boat. If it had not been for the black forms of the natives squatting on the hills round about, I might have imagined that I was gliding over the waters of a lake in my native land.

We were awakened in the early morning by the loud cries of the oarsmen and carriers, so that the notes of the unkindly bugle which generally broke our morning sleep were rendered superfluous.

Thanks to the rehearsal of the previous day, the stowage of all loads was got through in comparative comfort, and the signal for general departure was given by seven o'clock. We waved our hands to the marching caravan on the banks, and then our flotilla set out on the voyage.

With the water foaming at our bows, and with the characteristic songs of the *baharia* (oarsmen) ringing in our ears, we sped along over the smooth surface of the lake. It was a cool morning, and it was not until the sun began to gild the mountain tops that a grateful warmth made itself felt. And so the hours flew on. The creek widened out, and we reached open water, where a sharp breeze set in and retarded the less well-manned boats. Choppy, unfriendly waves splashed up against the sides and drenched the occupants. We saw very few water-fowl, and it was only now







and then that a pair of fox-geese flew up from the pebbly banks. The singing gradually stopped, and only the measured beat of the paddles in the water broke the stillness.

We took three days to cross the lake, resting for a short time on Mugarura Island, and again at the Mhoro Falls, which drop into the lake in high cascades. At length, on the 19th of August, we were close to Kissenji. At first we could only hazily discern its outlines on account of the mist which again obscured the scene. Then, after a little, the outline took shape, and grew into trim houses, whose white colouring made them look pretty and cheerful in the sunshine. Then further on we saw the grass roofs of a long, extensive town, the eastern side of which was closed in by the bamboo huts of our cantonment, and the western by the station and the guard house. A street, as straight as an arrow and fringed with eucalyptus trees, which ran along the bank of the lake like a marine parade, connected the township with the station. It was not long before we made out our lodgings, a charming little house, whitewashed and with a grass roof, from which my country's banner was waving a greeting to us; it was encircled by a trimly kept garden richly grown with bananas and gay flowers, and had only been completed a few days earlier. A "tea-house," finished in the same style, beckoned to us invitingly from the hill.

In honour of our arrival the whole town was gaily decorated with flags, or, rather, with substitutes for flags—red, blue, and white cloths, also gaudily painted *Kanga* (coloured stuffs much in favour for wearing apparel, and therefore useful as barter goods), which waved on all the houses. The entire house fronts, too, were ornamented with gaudy fabrics, and gave the town a really festive appearance.

Kissenji is the north-western military post of the German East African Territory. Like its Belgian neighbour, which is twenty minutes' distance away by boat, it lies in the *Territoire contesté*; that is to say, in the Belgian-German boundary territory, the ultimate apportionment of which has yet to be diplomatically determined.

The development of Kissenji is amazing. In 1906 the town consisted merely of a few native huts. In order to map out the new roads which had to be made Captain von Grawert and Lieutenant Ullrich had to cut their way with axes through the densest brushwood. And at the time of our visit, after but an interval of twelve months, one was astonished to see there a flourishing and daily growing trading centre with a population of eight hundred people and eighty *Duka*,\* in which brisk business was always going on. The development of this place is primarily attributable to the energy and the astute policy of Lieutenant Knecht, who took over the administration of the town soon after it was laid out, and affords another striking proof of the efficiency of the German officer when he is allowed a free hand for the exercise of his power and abilities.

After our prolonged period of tent life it was almost like being in a large city again. The dejection of the carriers soon changed to a state of cheerfulness, and perpetual applications for advances were made for the purpose of polishing up their outward appearance, which had naturally suffered from neglect on the route.

We took supper in the company of Father Superior Barthélemy and some of his brethren at the little tea-house, which from its commanding position offered a magnificent view over the whole northern inlet of the lake and across the volcanic chain.

A few hours later our land caravan came in, with everything in good order, under the safe conduct of the non-commissioned officer and my servant.

There was a good deal of detail to be seen to and arranged before we could contemplate special visits round the neighbourhood of Kissenji, to the islands of the lake, the Bugoie Forest, the volcanoes, etc.

We dismissed the Wahaia carriers of Bukoba, who had till then rendered faithful service to the caravan and kept in perfect health in spite of the shortness of bananas, which constitute their main diet. In their place we found two hundred fresh carriers

\* *Duka*, store or shop.



A MTUSSI



A GROUP OF WATUSSI



waiting for us, who came from Tanganjika, chiefly Manjema, and who had been secured through the mediation of Captain Göring in Udjidji. We still had an abundant supply of stores and provisions. Two thousand loads were stored up here to meet all requirements, and we had sixty oxen and six hundred goats in our possession.

The night which followed was nearly fatal to a successful continuance of our expedition. Through the carelessness of a carrier a house behind the depot in which the whole of the loads and all the valuable instruments were lying caught fire and was burnt down. We had hardly laid ourselves down to sleep when we were roused by shoutings and the sounding of the fire signal. Clad only in pyjamas, we made for the scene of the conflagration at the double. The Askari and the carriers were all flocking to it, and by working hard together, and incessantly flooding the thatched roof of the magazine, our efforts to avert the threatened disaster were eventually successful.

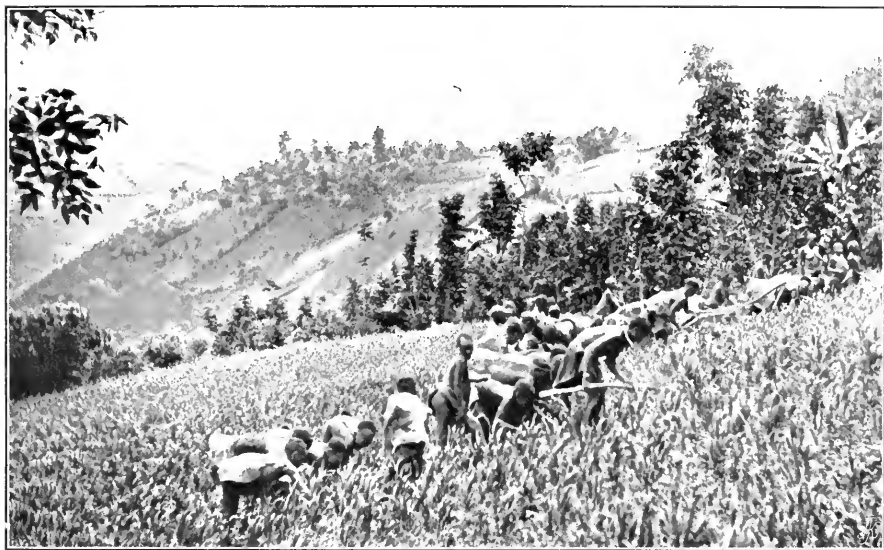
Grawert sailed off on the 22nd of August to the south end of the lake in order to inspect the post at Ischangi. We ourselves spent the day in paying a visit to Ngoma, the neighbouring Belgian post, whose leader, Lieutenant Ogg, had come to greet us on the previous day. We were welcomed in the most amiable fashion, and here we received our first experience of the lavish Belgian hospitality, for which we had good reason to be very grateful in later months. Ngoma cannot be compared in any way with Kissenji. It has a depressing influence, and with the exception of the officers' house, which was in course of erection at the time, it consisted only of miserable thatched huts. It shares with Kissenji a position in the debatable territory. The powers of authority vested in the officer stationed at Ngoma are very small, and are limited to the place itself and the immediate surrounding district. It forms part of the Russisi-Kiwu district, and, like Kissenji, is built entirely on lava, which also forms the building material for the majority of the houses.

Kissenji possesses an excellent climate, for by virtue of its 1,500 metres altitude above the sea level all enervating heat is

banished. The natural coolness prevalent in consequence makes a visit there a very agreeable experience. The man who has this place allotted to him for his sphere of activity draws a prize. In front are the swirling breakers of the most beautiful of all the Central African lakes, framed in by banks which fall back steeply from the rugged masses of rock; at the rear the stately summits of the eight Virunga volcanoes. Truly he who has once seen this delightful spot, and who has had the good fortune to view the nocturnal skies when illuminated by the glowing blood-red colours reflected by the flowing lava of the active crater of Namlagira, has added a pearl to the treasure chest of his memories, inalienable for life.

A more grandiose spectacle still awaited us on the evening of the 29th of August. It was glowing red in the heavens as far as one could see, and the mighty crater of Namlagira was thundering prodigiously. Fireworks of glowing rock and stone flashed up high in the air. A column of smoke, illuminated brightly by the fiery reflection of the outbreak, rose slowly up into dizzy heights, and then expanded mushroom-like for many miles around. We stood long admiring this natural phenomenon, overcome by its majesty, until the gradual fading of the glow indicated the end of the eruption.

The delightful recollection of this scene was rudely dispelled the next day, for a Job's messenger arrived with the news that a mail caravan with its various loads organised for our benefit had been attacked and pillaged by the Ruanda aboriginals. Captain Grawert being still away, measures for regaining possession had to remain in abeyance. However, an energetic protest despatched to Msinga soon brought about the desired result. We were quickly placed in possession of the complete mail from Europe and all the plundered goods. The ringleader of the attack, however, met with a heavy punishment. Msinga had him seized, and then pierced through with a sharp stake before the eyes of the people. The body of the robber was then exposed for weeks to serve as an example of the sovereign will of the ruler of Ruanda.



WANJARUANDA AT WORK IN THE FIELDS







WAHUTU



After Raven's successful tour in the Bugoie Forest, on which he had been accompanied by the Batwa people, he and I undertook a boat journey to two small, easily accessible islands, which at one time served the aborigines as burial places, and, doubtless, still do. We proposed to assist our anthropologist to obtain a collection of skulls. We found skulls and skeletons there in large numbers, and some of them had roots of trees growing through them. One skull had roots spreading through both the eye-sockets, and presented a very curious appearance. On the smaller of the islands we discovered the corpse of a woman, scarcely decomposed, and bound in a humped-up attitude to a tree. One of the oarsmen averred that the woman had been carried there after her death, yet we were not at all satisfied with this assertion, as it is a notorious fact that unfaithful women and girls in that country are surrendered to a living death before confinement as the penalty of their infidelity.

Weiss and Kirschstein joined us again via the mission station of Njundo a few days later, after their exhausting but successful survey and geological investigations.

Both of them had found themselves in a critical position at times, as in journeying from Mohasi to Kissenji they had used a route which turns off into territory where the Watussi and the European influence is not yet widespread. Weiss chose this route in order to complete his surveys, in spite of the Resident's advice to the contrary. He reported to me the following particulars:

"The Wahutu here respected the authority of the Watussi but little, and just as little did they want to have anything to do with us (Europeans). In addition to this unconciliatory attitude on their part, they happened to be celebrating their harvest festival and were nearly always intoxicated, and, in consequence, in very bellicose mood. All we required from them was provisions for our caravan and a guide in return for good payment.

"Our guide, whom we had commissioned from the last camping place, had been rendered incapable in consequence of his having fallen in with a good friend on the road, whom he had

deprived of his well-filled *pombe* jug. He had then refreshed his inner man so generously, that he afterwards just staggered to and fro in a drivelling condition in front of the caravan, to the great joy of our carriers.

"The Wahutu misunderstood our friendly intentions, however, and began to yell and bellow war cries, which resounded from village to village, and after a very short interval we could see the natives streaming in great bodies towards us from the valleys and the hill slopes, armed with spears and bows and arrows.

"By daylight we could easily have held them in check with our half-dozen rifles, but we should have found it impossible to defend ourselves against a crushing night attack.

"The warriors assembled on the summit opposite our quarters. We could observe the village elders holding council together. Detachments had already been sent off down the slopes in the direction of our camp. I decided then, in order to prevent any bloodshed, to approach them, attended only by my interpreter, in order that I might treat with them.

"Having proceeded half-way—I had ordered the Askari back to the camp in spite of their desire to accompany me—I commanded my interpreter to call out to the natives assembled on the hill that I entertained none other than friendly intentions. They might know this by my being perfectly unarmed. I challenged them to bring their elders along to confer with me.

"For a considerable time they made no sign. It was a highly critical situation, especially as the people had crept round me on the declivities, and were covering me with their bows. My only comfort lay in the knowledge that the arrows were not poisoned.

"At last one of the village chiefs advanced towards me, unarmed, like myself. I advanced a few paces to meet him, and greeted him with a firm shake of the hand. This sealed peaceful relations, and in an hour's time we had received our needed stores and also a guide in a fit condition for service."

After Schubotz and Mildbraed had also returned from their explorations in Rugege, travelling together with Grawert from



MOVING A HUT, RUANDA



BANKS OF LAKE KIWU AT KATERUSI



Ischangi to Kissenji, we were all united again with the exception of Czekanowski.

Our union was but a short one, however, and served mainly to arrange our latest collections and to plan fresh excursions, which were calculated for a period of about a month each.

Whilst Weiss and Kirschstein started off for surveying and geological purposes at the northern point of the lake and to the volcanic districts lying westward of Virunga, Raven, Wiese, Grawert, Knecht, and myself prepared for a trip to Lake Bolero. From there we three members of the expedition were to pay a visit to the eastern volcanoes and the Bugoie Forest. Mildbraed and Schubotz returned to Lake Kiwu, with which they were fascinated, and where the virgin island of Kwidschwi, and the biological study of the lake in general, promised them work of an extremely interesting nature. The following chapter from the pen of the zoologist will convey some idea of their impressions of the expanse of water and of their experiences on the lake.

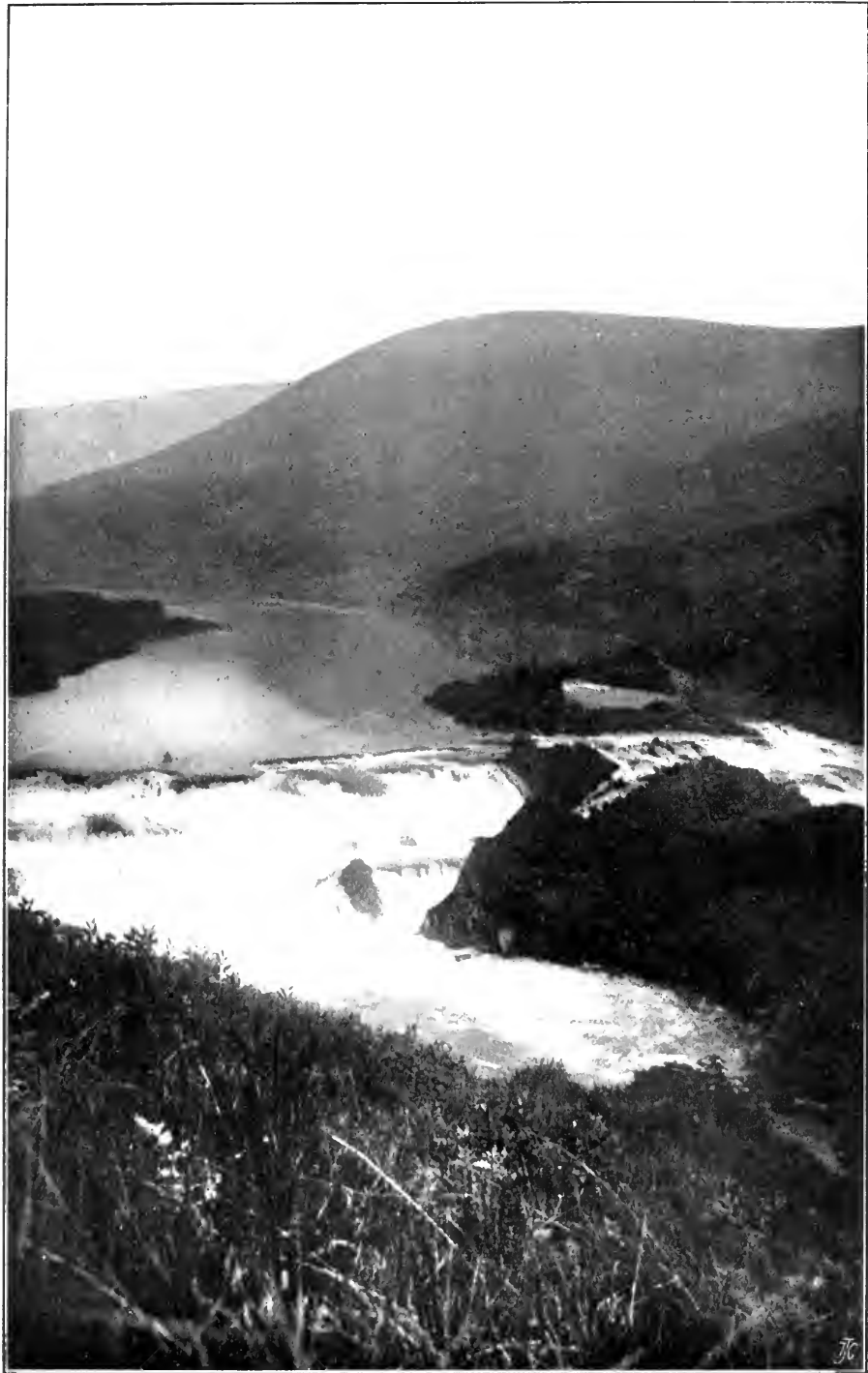
## CHAPTER V

### LAKE KIWU AND ITS ISLANDS

OUR first view of Lake Kiwu, on the way to Ischangi, after a series of exhausting marches through Ruanda and the Rugege Forest filled us with enthusiasm. The sight of a vast expanse of water after long travels by land and on foot has ever since the days of Xenophon impressed the traveller with a sense of freedom, and something of the joy of his 10,000 Greeks when they cried "The sea! The sea!" was experienced by us as Lake Kiwu came into view. Kandt's description of its beautiful situation, its splendid scenery and grand climate, coupled with the tales of German officers who had been there, had prepared us and given us a foretaste of the treat in store for us. For weeks we had spoken and dreamt of it. Lake Kiwu was our first important goal, where we all hoped to achieve scientific success. The first thing that we saw was the largest of its little inlets, and named "Mecklenburg Creek" by Kandt. Hilltops and summits lay around covered with banana groves, pea and bean plantations, bearing witness to the industry of the Wahutu people, who live densely massed together there. Light mists hung over the surface of the lake, concealing the more distant islands. The rays of the sun scintillated here and there on gently rippling wavelets, and the roseate tints of the morning sky, the fresh green of the banks on the lake, and the emerald, gleaming water made a lovely picture.

Lake Kiwu is the last discovered of the large Central African lakes. Vague rumours of its existence, it is true, date back to the sixth decade of last century. They are accredited to the Arabs who traded in slaves and ivory to Tanganjika and with





THE FALLS OF THE RUSSINI



whom Livingstone came in contact at Udjidji. But these reports led to extremely dim conceptions of the lake, and it was reserved for Count Götzen to gain the first accurate knowledge of its proportions and character. The count visited it on his journey across Africa in the year 1894, and navigated its northern end as far as Mugarura Island. Dr. Richard Kandt explored the lake more thoroughly in the years 1898-1901, and Kandt's topographical survey was finally completed by the German Congo Boundary Commission. Ample data concerning Kiwu are to be found in "Statements from the German Protectorates, 1904," from the pen of Captain a. D. Herrmann and in Kandt's "Caput Nili." Only the most essential facts concerning it need, therefore, be given here.

According to Weiss's estimate the lake lies at a level of 1,500 metres above the sea, high up at the end of the Central African rift-valley. It is 101 kilometres in length and 50 kilometres broad. The shores are extraordinarily cleft and rifted, so that often, especially on the eastern side, they are strongly reminiscent of northern fjords. The lake itself is framed in by innumerable mountain crests and summits which rise to 2,800 metres and form ridges. Those in closest proximity are bare, either steppe or arable land. Somewhat farther away glorious and stately forests take their place. In addition to its rugged shores this lake is characterised by its wealth of large and small islands. The shores are only sparsely covered with sedge grass and rushes, and are mostly shingly and incrustated with lime. These incrustations, which point to a higher sea-level in former years,\* sometimes gleam out white from amongst the greenery of the wooded island banks. Another characteristic of Kiwu is the hot springs which are found on the north-eastern shore on the peninsula of Irungatscho. Their temperature, according to Kirschstein's measurements, rises to 72 degrees (Celsius). They apparently form an attraction for fish, for in their vicinity the primitive nets and baskets of the natives are often met with.

\* Kirschstein discovered that these formations rise as high as eight metres above the present surface level of the lake.

The original formation of the lake appears, according to our geologists, to be closely connected with the formation of the Virunga volcanoes. At an earlier period a water basin which was united with the present Lake Albert Edward is supposed to have been divided through volcanic action, and then so dammed up that it found an outlet for itself southwards in the shape of the present River Russisi. The harmony which exists between the fossilised molluscs found by Kirschstein in the crustaceous formations and those still found at Lake Albert Edward may be taken as confirming this theory, as well as that the entire riparian land watered by the Rutschuru north of the volcanoes is an old sea-floor; the fossilised shell banks and numerous sea shingle deposits are sufficient evidence of this.

We had some little knowledge of the flora and fauna of Lake Kiwu, through statements which Kandt had afforded, who, amongst other material, presented a comprehensive collection of piscifauna to the Zoological Museum of Berlin. It was our duty now to endeavour to augment and complete the observations already made, especially with regard to the lower organisms. As the time at our disposal was comparatively limited, it was naturally not in our power to make a really exhaustive exploration of the lake. The biological investigation of a great water basin necessitates months and years according to the degree of thoroughness aimed at; for it is not only a question of the area to be explored but that the qualitative and quantitative syntheses, which vary according to the days and seasons of the year, necessitate frequent experiments. Thus there are only a few European lakes which we know thoroughly from a biological point of view, and it will be a long time before we shall be in a position to assert this of the African lakes. All our knowledge of them so far can only be termed superficial at the best, and is proportionate to the brief time devoted to their study and the lack of methodical research. Yet these superficial examinations are, in their way, very valuable, as they emanate from quite, or nearly, unknown districts, and they furnish us at least with knowledge of a general character respecting the regions in



BOATS ON LAKE KIWU



"FISHING" WITH DYNAMITE



question. Our visit to the islands of Lake Kiwu was a matter of great importance because they lie exactly on the boundary line between the two great divisions of the continent, so entirely different in character, the western forest zone and the eastern steppe zone.

For these reasons, therefore, Lake Kiwu marked an exceedingly important point in our programme, and almost immediately after our arrival at Kissenji we started making excursions on the lake in our little folding boats. We seized the earliest opportunity to experiment with dynamite for fishing purposes. Although in a general way such a method of fishing is to be condemned, it may strongly be recommended for purely scientific purposes. No other method, whether angling, net-, or basket-fishing, can give such satisfactory results. Just the factor which renders this method "taboo" for professional fishermen—namely, the killing of young, insufficiently developed fish—makes it of the greatest value to the zoologist, for in this very way he learns to distinguish the younger forms of species from those fully developed, from which they often differ considerably in colour and shape. Dynamite, too, is most serviceable in bringing those fish to the surface which maintain a hidden existence at the bottom, amongst stones and plants, and thereby elude ordinary fishing methods. The quantity of fish captured varies according to the amount of blasting material employed and the plenitude, or otherwise, of fish life in the waters worked, yet it always falls short of an average catch with the net.

I will not attempt to deny that my first experiment with dynamite caused me a certain degree of uneasiness. Weiss was the only one of us who had had any experience, and that he had almost forgotten. I selected with great care a fuse of ample length, about 60 centimetres, which had to be attached to a bomb weighing some 50 grammes; so that, whatever happened, I could get well away from the sphere of action before the explosion occurred. Accompanied by my "boy," Ali ben Mahsud, who could manage his oars passably well, I got into our little boat and made for the mouth of the Sebeja, which

ran right in front of our camp. Our travelling companions, who remained on the shore in momentary expectation of a terrible spectacle, sent ironical felicitations and benedictions after us. I then lit the fuse with my lighted cigar, and flung out the bomb as far away from the boat as possible. A small cloud of smoke which rose, hissing softly, from the surface of the lake marked the spot where it fell. It was high time then to get a good distance away from the gruesome bomb. Ali rowed like a racer, and, making a final spurt, in a twinkling we had got about a hundred metres from the smoke. A breathless moment elapsed. Then a dull, weak-sounding report was heard, a little fountain spurted up from the spot in question, and all was over. Loud bursts of laughter relieved our companions on the banks from their breathless suspense. No one had been blown up; we all stood firmly on our legs, and only the faintest concussion had been noticed. We rowed leisurely to the scene of the explosion, and gradually collected all the fish which had been driven to the surface. There were from one to two dozen percine *cichlidæ*, very frequent in Africa; all small specimens a few inches in length. They lay motionless on the water, their air-bladders protruding from their mouths, or swam round in circles, breathing with great difficulty. The dark-coloured males exhibited beautiful bronze-green cross-stripes, and the females carried their young fry of five or six in their mouths, a habit peculiar to this species and intended as a protection from danger.

This very harmless explosion had quite solved our doubts as to the dangers attending such proceedings. The fact that only a very small number of little fish had been killed by a single bomb led me in future always to use two or three bound together with wax-cloth. Not until then was I enabled to secure any big fish. The scurried flight from the point of concussion had also proved itself unnecessary, and so we afterwards contented ourselves with leisurely rowing twenty to thirty metres further away, and there quietly awaiting events. It is true that the fountain tossed up from the smooth surface by means of





FLYING FOXES



STALACTITE FORMATIONS ON THE SHORES OF WAU ISLAND



a charge of 100 to 150 grammes of dynamite attained a very considerable height, but there was no danger so long as the boat did not lie immediately above it. This, of course, is easily avoided by watching the smoke. Little remained to interest biologists on the flat sandy beach of Kiwu in the locality of Kissenji, and so we prepared for a tour of the islands of Kiwu.

On the same day that the Duke, with Lieutenant von Wiese, von Raven, and Captain von Grawert, marched into the country of the rebellious chief Ngrue, Mildbraed and I left Kissenji for a journey to the islands of Mugarura, Wau, and Kwidschi. We contemplated staying a week on the last-named island in order to secure as comprehensive a collection of zoological and botanical material as possible. Thanks to Lieutenant Knecht's help, the seven boats which were needed for the transport of our tent-gear and zoological and botanical material were punctually on the spot. The boats are dug-outs, averaging ten metres in length and one in width, which have been built by the natives for many years by means of fire and a peculiar sort of hatchet. Four or five narrow boards serve as seats for each pair of rowers. In the stem a specially powerful oarsman acts as steersman. The oars have heart-shaped blades and sweep round with a long-drawn stroke. The oarsmen at Lake Kiwu wore no special articles of ornament, but merely copper or brass rings, etc., such as we found prevalent among the Wangilima rowers on the Aruwimi. It was with somewhat mixed feelings that we trusted our persons for the first time to such antediluvian craft, on our journey from Ischangi, at the northern end of the lake, across to Kissenji. Yet our fears that in consequence of their long, cylindrical shape they might roll over on their longitudinal axis were unfounded. The thick floor of the boat—which is very heavy in comparison with the extremely thin sides—acts like a leaden keel, and the narrow beam almost entirely excludes any danger of overbalancing through unequal loading. Their carrying capacity is amazing. We could load up every available empty space in the boats after we and the oarsmen were seated without detracting in the least from their seaworthiness. These

canoes are really excellent for calm weather travelling, though they are inadequate for coping with the storms not infrequently encountered on Lake Kiwu.

We met with our first unhappy experience in this direction upon the occasion of our journey from Ischangi to Kissenji, which we undertook in a flotilla of ten boats in company with Captain von Grawert. The first day passed away most agreeably in the finest of weather. On the second, however, we were surprised by foul weather as we were crossing the open water (about twenty kilometres in breadth) between Kwidschwi and an island lying to the eastward of it. A violent breeze swept across the lake and swirled up waves which foamed and splashed high above the two-foot gunwales of the largest boats, in the bows of which we Europeans were sitting. Through the laziness of certain of the oarsmen the boats of the flotilla had drawn a good deal apart from each other during the course of the day. Thanks to our constant urging of our crew, we Europeans reached the safe shelter of the island without any greater inconvenience than a thorough drenching. By degrees the other boats, more or less filled with water, arrived, with the exception of two, which, being the last of the procession, met with the full violence of the storm. These, unfortunately, while yet some distance from the island, fell victims to the waves without our being able to render any assistance. Mildbraed's "boy" Max, or "Maxi," as the Wasuaheli called him, a typical coast boy, was seated in one of these boats. As a European's "boy" and "Daressalamer" he always laid down the law and deemed himself far superior to the carriers and "washensi" (negroes of the interior). In this accident on the lake his shrewdness stood him in good stead. Recognising the gravity of the situation he speedily made up his mind and leapt into the water just at the moment when a rather bigger boat at the rear passed the one he was in, which was already half-filled with water. A few strokes of the oars made it possible for him to clamber on to the gunwale of the other boat. In this boat sat Amdallah Mjamwesi, an Askari, who, strange to say, exhibited lion-like



THE SHORE OF LAKE KIWU AT KISSENJI



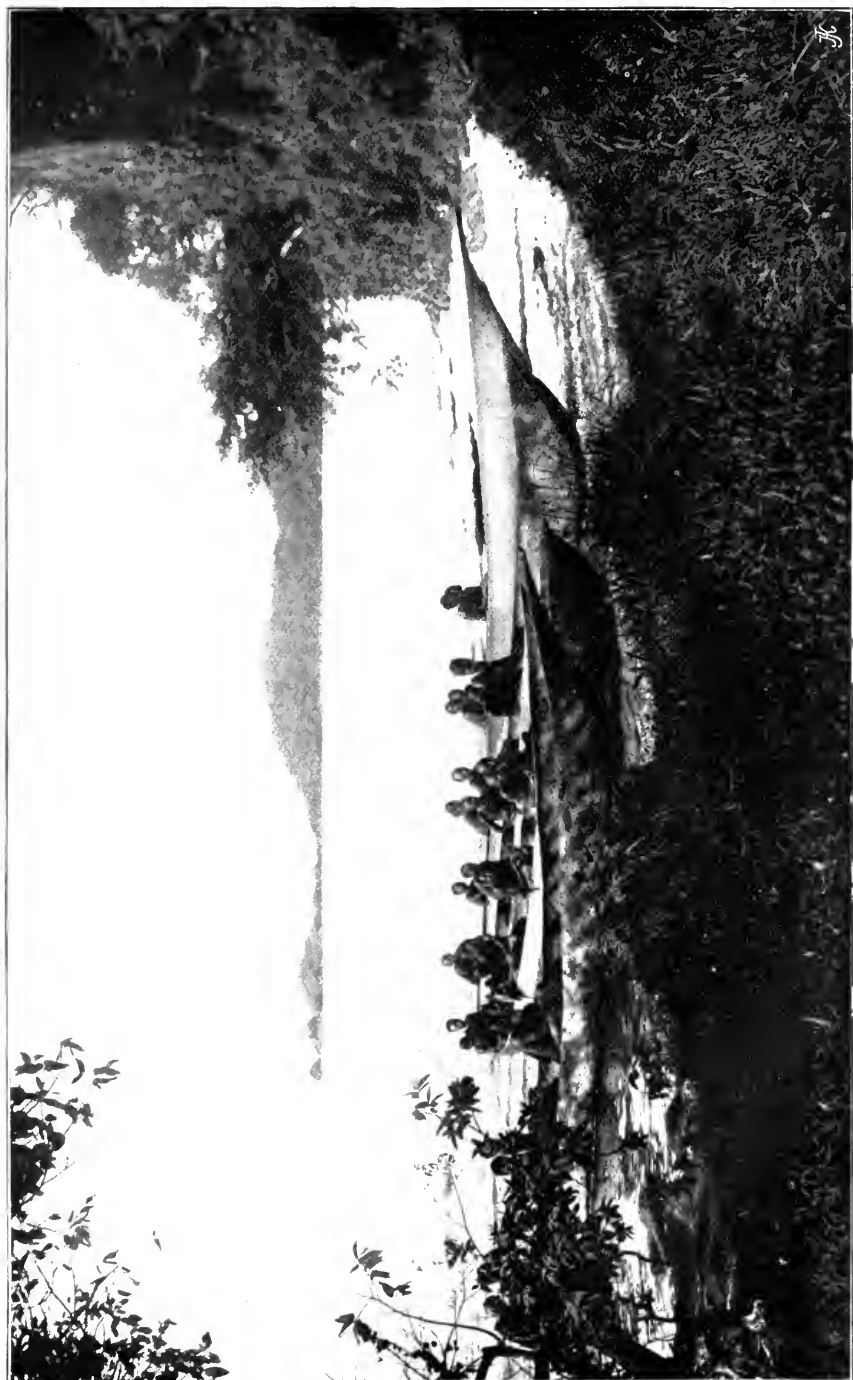
courage when lion-hunting but went in deadly fear of buffaloes. He was afraid that Maxi would capsize his canoe, and threatened to shoot him through the head if he attempted to climb in. Maxi hesitated a moment, but decided to risk the chance of death by Amdallah's bullet to the more certain watery death; and he did well, for Amdallah reconsidered his intention, happily for him, and laid down his rifle. Thus he became Maxi's saviour against his will. The oarsmen of the two overladen boats, however, ten in number, found their death in the waters of Kiwu, the first victims of the expedition. The two most prominent characteristics of their race—heedlessness when things go well and fatalism when in the face of danger—led them on to their doom. It was always a source of the greatest vexation to us to notice how our oarsmen, powerful Wahutu from the northern shore of the lake, dawdled away their time when the sun was shining and the lake was smooth. It was only when the wind sprang up and the waves began to roll that they woke up to their work.

This sad event induced us to take all needful precautionary measures in future expeditions. When we had to pass over broad open sheets of water, unprotected by any islands like those between Mugarura and Wau, or Wau and Kwidschi, we would start at sunrise so as to reach our destination fairly early in the forenoon, for experience had taught us that the stronger breezes usually sprang up about noon. The oarsmen row to a set stroke, whether in haste or no, and pull two long strokes and one short one, or one long and two short strokes, with the loosely held paddle-shaped oars. Now and again they work themselves up to brisker efforts by the aid of peculiar cries led by one of their number, the last word always being repeated by the chorus. Unfortunately this method of progress is not of long duration, and just when it would be of most service—when there is a bit of sea—they lose their heads. Directly any wave splashes into the boat they imagine that their last hour has struck, and are inclined to stop rowing altogether. At these times a great deal of energetic encouragement on the part of the Europeans is

necessary, and reason has to be rammed into their heads; consequently when we left Kissenji we distributed our party in such a manner that there was a trustworthy and dependable man in each boat. Mildbraed and I sat in the two bigger ones, and in the others there were always an Askari, my faithful old carrier-leader Compania, our cook Majuto, and Hassani, one of our native assistants, to fill such places of honour. Each of these was given strict orders to see that the boats were kept close together.

We had reason to be thankful for these measures even on the first day on our passage between Kissenji and the island of Mugarura. Amdallah's canoe, which was packed with zoological material, drew water, and, as bailing was of no avail, she had to be escorted by her two neighbouring boats and drawn up on the strand, two hours' distance from Kissenji. Amdallah waited there until another boat could be sent along from Kissenji to re-ship the loads. The journey from Kissenji to the island of Mugarura is not of so much interest as the reverse journey. One does not get the splendid view of the grand scenery of the northern shore and the Virunga volcanic chain, which is to be enjoyed when coming from the south in fine weather. The hills and mountain summits of the eastern shore are not wooded and are either clothed with steppe grass or native vegetation. They are fatiguing to the eye, and so when the sun rises higher by degrees, and its burning rays shoot down mercilessly on pith helmets and its reflected light on the surface of the water hurts one's eyes, there is nothing better to be done than to bury one's face deep in the helmet and attempt to sleep. The uniform, monotonous strokes of the oars help to make it more than an attempt. Now and again beautiful dreams are disturbed by the call of a "boy" or of the rowers: "*Fissimaji, bana*" ("Master, an otter!") Then one's hand steals towards the gun always kept in readiness for this purpose in the bow of the boat, and the hunt (generally useless) for the wily fish-stealer begins. Otters are the sole large amphibious inhabitants of Lake Kiwu. Neither hippopotami nor crocodiles are found there; the latter, indeed,





THE ISLAND OF MUGARURA, LAKE KIWU



do not appear to exist in Ruanda. On the other hand, otters are plentiful, and it would be difficult to make a more or less extended boat expedition on Kiwu, Mohasi or Bolero without seeing some. Their fine skins, which, however, are of considerably less value than our home ones or those from North America, make the animals very much prized even among the natives. The Watussi, as well as the Wahutu, use the skin, cut in long strips, for adorning the large tobacco pouches which they wear on their breasts. Fashioned also in strips, it ornaments the loin-cloths of their festive attire. The frequent requests for otter skins made by Europeans who have neared Lake Kiwu stimulated the shore-dwellers to pursue otters more zealously, and thus these animals, originally fearless, have now become very timid. One rarely gets within shooting distance of them. When swimming, they, at the best, only stretch their heads above the surface of the water, and then only for a short moment. A quick, good shot is therefore needed to hit them. But even that is not everything. When mortally wounded, the otter sinks in a few seconds, and it more than once happened that we were just in reach, as we confidently believed, of our booty when it vanished before our eyes.

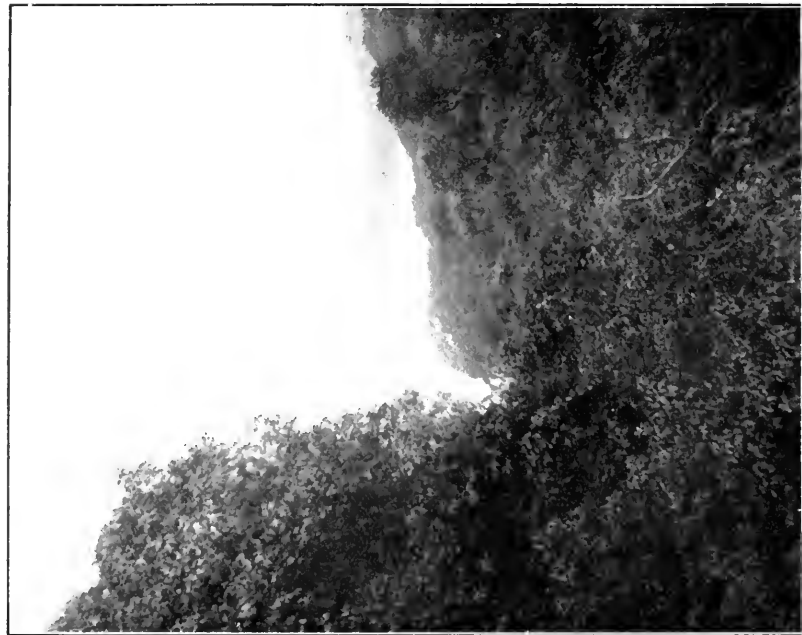
Mugarura is one of the largest islands in Lake Kiwu. It lies in the eastern half and, perhaps therefore, has mainly a steppe character. Only the northern and western parts are covered with dense brushwood, which, however, is different in character from that at Kwidschi and Wau. We pitched our camp at a pretty spot and stayed a full day, during which we traversed the island in all directions. Whilst the eastern part is devoid of beauty in landscape, the western offered us the most charming sylvan scenery. The gently ascending bank is here bordered with several quiet little coves, which in beauty might rival the Mecklenburg lake scenery at home.

Count Götzen found a great troop of flying-foxes (*pterocyon stramineus*) in the woods on the banks of one of these coves, and they declined to be driven out of their favourite trees either by shooting or yelling. Kandt refers to them in his book of travel.

Since then a decade has passed away, and these animals appear, in the meantime, to have increased considerably. The numbers we saw hanging in the branches of the trees might be reckoned in thousands. Like the sea-birds on a northern island, or like the plums on the trees in a good fruit year, we found the flying-foxes here, and, like a host of gnats, they rose up in the air, alarmed by our shots, flew screeching loudly round our heads, and in a little time settled down once more in their former resting places. Their movements in flying are measured, similar to those of the seamew. In the evening, on returning to our tents from our tour round the island, we observed the flying-foxes at a great elevation flying towards the distant Kwidschiwi. It was probably hunger that drove them thither. Mugarura would hardly be likely to produce a sufficient fruit supply (chiefly wild figs) to maintain so vast a number.

The island is not inhabited—that is to say, not continuously. We found a few Watussi there, of a low order, with their cattle—about twenty oxen. They slept in small scanty huts, which one could see were but for temporary use. Probably the cattle are taken there to graze at the beginning of the rainy season.

An open stretch of water about two miles wide divides Mugarura from the smaller island of Wau, which lies to the westward and is also uninhabited. It takes two hours to cross, and even this short interval of time is sufficient sometimes, on fickle Lake Kiwu, to place boats in really dangerous situations. More than one visitor to Lake Kiwu has experienced this. Kandt, who saw more of the lake than anyone else, relates that whilst returning from Wau he met with stormy weather, and that it was only with the greatest difficulty that he succeeded in bringing his boat, half-full of water, into a harbour of safety on the shores of Mugarura. For these reasons we hurried when we left the island. This proved fortunate for us, for, in about an hour from our leaving, the sky, which had been quite bright at first, clouded over, and storm-heavy clouds, broken by brimstone-yellow patches, hung over the mountains of Ruanda. Short, sharp and violent squalls swept over the surface of the lake, and wave



WESTERN SHORES OF MUGARUKA ISLAND



A COLONY OF HERONS



after wave splashed over the bows of our canoes. Our threats of punishment for any who ceased to row had their effect. Our dug-outs flew over the water, and we glided safely into the sheltering little bay of Wau Island as the torrents of descending rain obscured the eastern shore from our view.

Wau belongs to the smaller of the islands of Kiwu, but is, perhaps, the most beautiful of them, so far as scenery is concerned. It would make a simply idyllic haven of retreat for dwellers in great cities who were in need of rest. The island is about 3 kilometres long and 1.5 kilometres in breadth at the two rounded ends. In the middle it is drawn in, at the waist as it were, to about 100 metres, by two picturesque coves. This is about the flattest part, and the land ascends to some 50 metres. We pitched our tents here; in front and behind us there lay a fine white sandy shore, which looked most inviting for bathing purposes. Wau affords beautiful views towards the west and north. In the west may be seen the northern end of Kwidschwi, to the north of it two smaller islands, also densely wooded, and a good 30 kilometres farther back is the immense western margin of the Central African rift-valley, whose 3,000 metre-high ridge is covered with virgin forest. One obtains a still grander view in favourable weather when looking to the north. One morning, at six o'clock, I stood on the highest point of the island in the clearest of weather—for it had rained incessantly throughout the night—and the Virunga volcanoes were visible. Looking northwards, the graceful outlines of Mount Ninagongo, 3,391 metres high, rose up over the broad motionless surface of the lake, which was about 40 kilometres broad at this point. Farther to the east the jagged giants, Mikeno and Sabinjo (4,380 and 3,704 metres respectively), stood out prominently, and finally came Karissimbi, the highest of the volcanoes, whose lofty summit (4,500 metres), crowned with snow, was glittering in the morning sun.

Wau is half covered by dense forest growth, the predominating trees of which are a species of fig, with white trunks and beautiful, sometimes ball-shaped, tops, the thickly-covered

boughs of which droop down over the surface of the water. The very luxuriant undergrowth renders it very difficult to penetrate the forest, so that Mildbraed, after many unsuccessful attempts to procure certain kinds of wood, adopted the scheme of shooting from the boats at the branches of trees on the banks—a somewhat unique method of botanising. The rest of the island has the steppe character. Right in front of our tents stood two medium-sized specimens of the glorious *Erythrina tomentosa*, the most beautiful of the African steppe trees. Its great blood-red blossoms form the favourite food of the sun-birds (*nectariniidæ*), those diminutive, most gorgeously coloured birds which in Africa take the place of humming-birds. With their long beaks, these dwarfs of African ornithology search the blooms for insects. There is an incessant soft flitting from tree to tree. I was able in a very short time to secure five different species for our collection, several of each kind, and I could have increased this number to any extent. Other striking denizens of the island, which always gave me pleasure whenever I came across them, were the grey parrots, the “kasuku” of the Wasuaheli. Their sonorous call-notes resounded from morn to eve from the trees behind our tents. The proudest bird, however, and the strongest, the ruler of Wau, so to speak, is the screaming sea-eagle. Motionless, as though stiff and frozen, sitting in his favourite resting-places (tall, decayed trees on the banks), the lonely, stately bird, high above the sea of foliage, with the lake gleaming silver in the tropical sun for a background, offers a picture which no painter’s hand could improve upon.

Bush-buck are the only larger kind of mammals which live on Wau. There have been manifold speculations as to how they got there, and as to the beginning of the island’s formation. Kandt and the members of the Boundary Commission came upon their tracks, but could not capture the animals themselves. It was thus important for us to obtain a specimen of these islanders, who had without doubt been cut off from the mainland for a very long period. I found a trail immediately on making my first round tour of the northern point of the island. Perhaps I





KWIDSCHWI ISLAND



A CLEARING IN THE FOREST OF KWIDSCHWI



should have succeeded in taking home this coveted prize if I had not been seduced by a fox-goose waddling along, which I immediately made mine for the sake of our larder. The shot started up a bush-buck which had, concealed from me, been browsing behind a hill, but which, with a few bounds, at once disappeared into the forest. It escaped me a second time in a similarly annoying manner. I had stationed myself one afternoon at a spot on the edge of the forest, which, from the many tracks of game, promised me some likelihood of success. Half-hour after half-hour fled by, but no bush-buck was to be seen. The sun had long sunk below the distant Congo mountains, and there was no longer light enough to shoot by, when across from the camp there approached the flickering glimmer from the lantern of the Askari who had been ordered to fetch me. I stood up dejectedly and went to meet him. Then there came a short shrill cry of terror, and a yellow shadow, twenty paces away, fled back into the forest. My chagrin can be imagined, for we had to proceed farther the following day, and all hope of getting the important zoological specimen was gone. But I had reckoned without my trusty comrade Mildbraed. By no means a born hunter, he had, up to the present, used the skill in shooting which he had acquired in the Prussian military service almost exclusively for botanical purposes by bringing down the blossom-bearing branches of the virginal forest. As regards living animals, his bullets had so far only been utilised for despatching certain billy-goats of our flocks destined for slaughter, and here and there a crane which had stood in the way of his caravan. Therefore, my amazement was not small when I understood the "*bana maua*," or "Flower-master," had shot some game. Whilst making an excursion to the southern half of the island, Mildbraed had suddenly noticed something red moving slowly in the high steppe grass. Raising his gun hastily, he let drive, and the famous bush-buck of Wau lay at his feet—a full-grown female of the species (*Tragelaphus roualeyni*). It appeared smaller to us than the specimens collected elsewhere. In what way it differs—if differ it does—from the animal which frequents the banks of the lake, cannot be deter-

mined until a careful comparison has been made. Having very carefully attended to the dressing of the skin, we celebrated the event by cracking a bottle of Moselle. It was Mildbraed's first successful hunting exploit in Africa, but was followed by many others, by which our collection was enriched with many a fine specimen.

Next morning we left Wau, the idyllic, in most beautiful weather, and sailed for the west coast of Kwidschwi. The departure was, of course, accompanied by the usual noise and bustle. We were obliged to distribute our reserve stores of provisions, which had been sent after us on a primitive dhow from Kissenji to Wau, amongst the eight dug-outs, and the rowers behaved as if they feared the additional loads would imperil their boats' safety. In reality that only meant laziness, for there was positively no danger to be feared with the mirror-like smoothness of the lake and the proximity of the banks, which lay right alongside our course. A few thrusts in the ribs from the Askari settled matters much more expeditiously than our despairing attempts to convince the men by words, and thus we at length got into the boats. I sat lost in thought in a deck chair in the bows of my boat, turning the pages of Kandt's "*Caput Nili*," and revelling in his descriptions, as well as in the reality—the charming isles, the rugged slopes of the western shore, and in many other things around me. The voyage was interrupted several times by a brief chase—of course, an unsuccessful one—after an otter. We had more luck with the great white herons. These are the most attractive figures among the scanty water-fowl of Lake Kiwu, and as they are not hunted by the natives, they are not so very timid. If you see one of these striking birds proudly strutting along the banks, you may safely count it as spoil. With this exception we saw few other water-fowl during our several trips on the lake; one or two seamews and cormorants, grey herons, fox-geese and ducks, but all of them singly. This is a striking phenomenon when compared with the profusion of birds on other African lakes. It accords entirely with the generally accepted fact of Lake Kiwu's poverty in



IN THE VIRGIN FOREST, KWIDSCHWI  
(TREE FERNS)



animal life. I harboured some slight doubts as to the correctness of Kandt's assertion that living shell-fish were entirely non-existent in this great water-basin, but I must entirely confirm his statement. I can even go further, and say that other animal forms commonly found in our waters, like spongillæ and moss animalcules, were not to be seen. To speak candidly, however, I must maintain my doubts as to the accuracy of Kandt's statements regarding the presence of medusæ in Lake Kiwu. Until quite recently medusæ were only known as inhabiting sea-water, it therefore caused much sensation amongst zoologists when it became known that the famous African explorer, Dr. Richard Boehm, who succumbed, alas, later, to fever, had discovered medusæ in Tanganjika. It was assumed from this and from certain other peculiarities of the fauna of the lake that there had formerly been a connection between it and the sea. If the same important conclusion could not be deduced from the existence of jelly-fish in Lake Kiwu, it was at least of much interest. In the meantime I must repudiate it so far as Kiwu is concerned, for we never observed these creatures either on our daily journeys nor during our month's stay at Kissenji, where we often met strong sea-breezes. And as Kandt declares that he only saw these *acelephæ* (about the size of beans) once, in two species—which does not coincide with the ordinary appearance, in shoals, of these organisms—I cannot but think that in this particular case the excellent observer was at fault.

The smallest living denizens of the sea, the plankton organisms, were exceedingly numerous but extremely uniform. They are, in fact, almost entirely *copepoda*, microscopical crustacea. The number of fish in Kiwu is far behind that of other African lakes, and, as regards species, there are hardly more than ten in the lake—this is a striking fact. These ten species are divided into four families only, in which the *cichlidæ* are best represented. The edible fish attain the size of a medium carp. They are valued by the natives, and are caught principally in baskets.

Our journey from Wau to Kwidschwi led us close along the

west coast, which is grown over with low, dense virgin forest, the green monotony of which is occasionally broken by a few phoenix palms, presenting a pleasant change to the eye. The splendid big turacou, the typical bird of Kwidschi, and hosts of grey parrots stirred and rustled the tree-tops. About two o'clock in the afternoon we found a suitable landing-place in a deeply indented creek. One or two natives stood on the shore gazing in amazement and fear at our approaching flotilla. They did not await our landing, however, but disappeared headlong into the scrub. Then our rowers leaped into the shallow water, as if at word of command, sprang on shore, and gave chase to the fugitives. It was not long before they returned, laughing and chattering, and bearing with them goods which had been thrown down by the other natives in their flight. They appeared to expect praise for their heroic deed, and were, therefore, rather astonished when we gave them a few cuts with our sticks, and ordered them to replace the stolen goods whence they had taken them as speedily as possible.

The next morning we journeyed farther south to try and discover a suitable opening into the forest which covers the central part of Kwidschi. It begins sporadically on the banks and rises, at its highest point, to about eight hundred metres above the level of the lake. We intended to do some collecting in this totally unknown virgin forest in order to be in a position to compare it with the Rugege forest, and also the Congo forest, which we had yet to explore. The island is about forty kilometres in length and some fifteen kilometres across at its broadest point, and is half covered with a forest of lofty trees. The rest of it is, relatively, cultivated arable land. After a four hours' journey, we arrived at a broad bay. The shores were thickly vegetated with banana, pea, and bean fields, and not far away lay the forest. A mighty umbelliform acacia near the bank appeared to invite us to pitch our tents, and the forest looked easily accessible from this point. Grawert had recommended Tamate to us, the subordinate chieftain of the Niamischi province, as being a suitable intermediary when negotiating

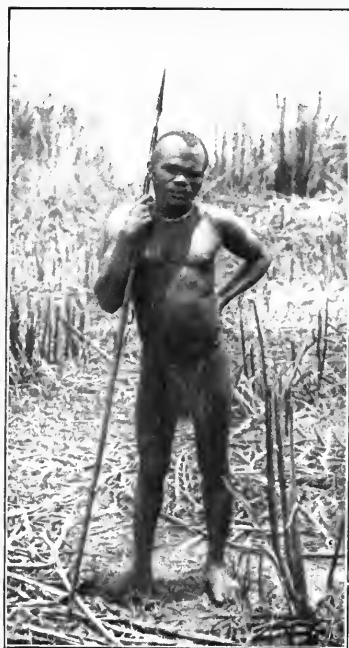


with the natives, so we sent off a boat at once to bring him along.

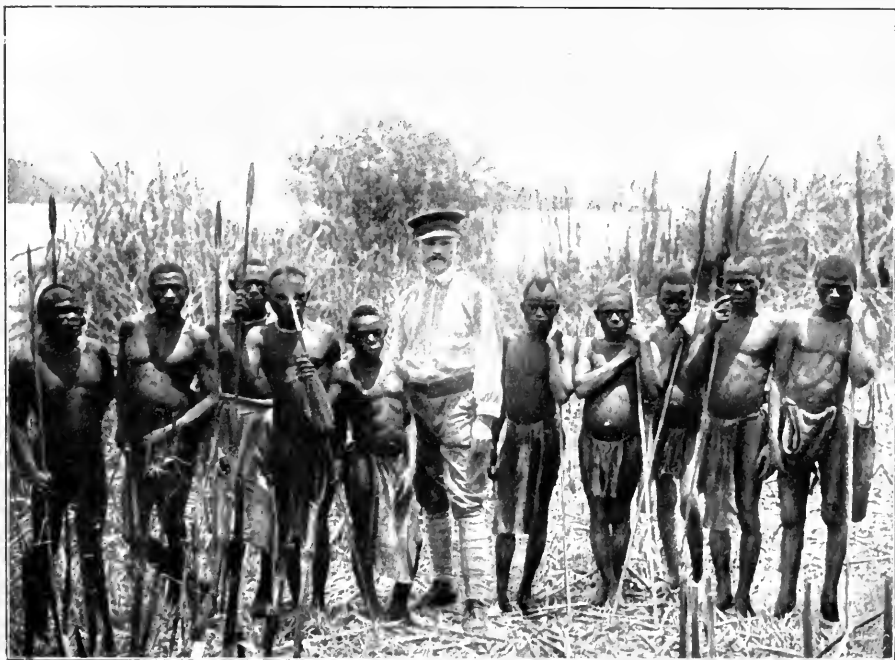
The natives of Kwidschwi are much shyer than those of Ruanda. In consequence of repeated attacks made upon them by the Watussi, they regard all arrivals with mistrust. Their numbers are estimated by Kandt at about 20,000, and are believed to comprise all the sea-dwelling tribes, whose members look upon the island as a harbour of refuge for those who, for some reason or other, are weary of their homes. Kwidschwi was still a province of Ruanda during the rule of Luabugiri, Juhi Msinga's predecessor, but freed herself from the oppressive yoke of the Watussi after the death of Luabugiri, and is now an independent sultanate, under the sovereignty of Mihigos. The latter avoids contact with Europeans, and all negotiations with him have to take place through his subordinate chief, Tamate. The islanders are diligent husbandmen, but possess little live stock. It is stated that the Watussi robbed them of it—at least, they say so. Although possessing the sturdy muscular physique of the Wahutu, they are easily distinguishable by their striking head-dress. The characteristic half-moon shaped coiffure worn by the Wanjaruanda is not usual there. In its stead a long hair plait stands out in sharp contrast against the shaven temples and occiput. The style of their huts and clothing, especially as regards the women, is similar to those of the Wahutu. We discovered many little hamlets hidden away in banana groves in the neighbourhood of our tents. At first their inhabitants concealed themselves from us, and the doors of the huts were carefully barred, but they soon became more trustful. Our occupation of collecting all kinds of small creatures and plants certainly aroused their wonder, but did not serve to convince them of the friendly character of our visit. Three or four days after our arrival I was passing a village, when the senior villager approached me and said, "Jambo mami" ("Good day, gracious sir"), striking his left thigh and his forehead with his left hand, and stretching it out to me. A jug of *pombe* and a bunch of bananas were then brought to me as gifts. These were accepted,

with my best thanks, for distribution among my people. More friendly relations now set in between us and the islanders. They daily brought us a few bunches of bananas and some fowls, and received stuffs and beads in exchange. They also served us as guides upon our excursions into the forest.

This was more difficult to reach from our camp than had appeared, for it began some hundred metres or so above the banks of the lake. An extremely steep and slippery path led up to it over clayey soil made soft by the rain. Out of breath and dripping with perspiration, we got to the edge of the forest, convinced that it would not be possible, as we had hoped, to set up our camp there. The Kwidschwi forest is very beautiful. High-standing trees, chiefly *parinarium* and *sapotaceæ*, many liane, and most luxuriant brushwood make it almost impossible to swerve from the narrow path which penetrates deep into the forest. When chasing the long-tailed monkeys, which the natives say are the sole larger mammals of the island, I learned to know that forest. Monkey hunting is without doubt one of the most difficult tasks that confronts the zoological collector in Africa. The animals are very timid, and conceal themselves in troops amongst the loftiest tree-tops, but often betray themselves by their restlessness and their characteristic harsh cries. Then the question is how to get within shooting distance. Through the densest underwood you go, up the steep slopes, and down them, with arms and legs caught by thorns and liane, or with them clinging round your rifle and your neck. Creeping slowly on all fours through the tangle, perspiring and covered with dirt, you stand at last, with a racing pulse, at the foot of the tree you want; but the noise made by your stalking has scared the monkeys away some time ago. The direction in which the troop has fled is only indicated by a rustling in the branches of some neighbouring trees. This happened to me repeatedly during the first few days of our stay at Kwidschwi, so that I quite lost heart. I could only set all my hopes on the Batwa, the famous pygmy hunters, whom Tamate had promised to bring along.



MUTWA OF KWIDSCHWI



BATWA AT KWIDSCHWI (DR. SCHUBOTZ IN THE CENTRE)



The subordinate of Mihigo had in the meantime paid us a visit, accompanied by two followers. He was of medium stature, slender, and very scantily clothed, yet he created an impression of intelligence and complaisance. But of the dignity which compelled respect, and which is met with in the person of the chief of Ruanda, he had none. When I told him of my hunting troubles, he promised that the Batwa, who dwelt somewhere in the interior of the island, should be fetched. They were the only folk who understood how to capture the cunning and timid monkeys. The following day they appeared, amid the yells of our people, who were no less curious than we ourselves to meet these strange guests.

We had come upon their traces for the first time in the Rugege forest. Whilst stalking before sunrise one morning I stumbled across a small encampment of them, but they had perceived me long before I had caught sight of them, and had fled into the forest like wild animals. That gave an opportunity to my Mtussi guide to relate to me all kinds of fables concerning them and their method of existence, so that since then they appeared to be shrouded in mystery, which raised them to a position of fear and dread amongst our followers. Their appearance consequently disillusioned us. Personally I had imagined them to be smaller than I actually found them. Their height ranged from between 140 to 160 centimetres, but they were always conspicuous among the other Kwidschwi-folk for their smallness and daintiness. The colour of their bodies is exactly the same dark-brown tone as that of the islanders. Their faces are uglier, however; their noses flatter, and their skulls apparently rounder. Whether they should be looked upon as dwarfs or as small negroes is a question of no import. It is certain that they form a separate foreign element among the inhabitants of Kwidschwi, and probably wandered from the west, from the Congo, and mixed very little with the aboriginals. The bodies of the Batwa are well built and muscular, their only wearing apparel consisting of an apron of cowhide. But every one of them, like the Wanjaruanda, carries a tobacco pouch round the arm or

shoulder plaited out of grass-stalks. The only weapons we observed were spears, having fairly long lancet-like blades. I have little doubt, however, that they also possess bows and arrows, only that they are not in the habit of always carrying them. The demeanour of these pygmies was shy and hesitating, and we were only able to come to any understanding with them through Tamate's mediation. After we had gained their confidence, by making them some small presents, they declared themselves ready to hunt monkeys for us, but could not be induced to go on the hunt with me, because, as Tamate said, they were afraid of the crack of my gun. Then for four days I neither saw nor heard anything of them.

Meanwhile we undertook long excursions in the forest, and followed a path which was good going at first, but which, as we penetrated deeper, became narrower and narrower, and finally lost itself entirely in the bush. By far the most attractive phenomena in the whole green shrubbery presented by the African virgin forest are the tree-ferns which are found chiefly in clumps close to small watercourses. They are perhaps the most beautiful children in Africa's flora; with their slender stems, ten metres and more in height, and beautiful crowns, they are more like palms than ferns, and no layman would recognise in them a relation of our common bracken fern. The luxuriance of the undergrowth corresponded with the richness in species and variety of the lower animal world. When I sent my guides and "boys" along to collect *wadudu* (insects—in a broader sense, small animals) my time was fully occupied in separating the valuable from the useless specimens from the abundant supply they brought. Earthworms of more than forty centimetres in length, and fully as thick as one's thumb (*Benhamia spec.*) were extremely common; earth-crabs, snails, with and without shells, too, were gathered in large numbers without any trouble. The most striking feature, however, was the wealth of butterflies in this forest. As they are usually associated with tropical plants, I had been astonished at the small part they had played hitherto in the country we had traversed; in the steppes, forests, etc.,

they had been conspicuous neither for their rich variety nor for the beauty of their colouring. I was therefore all the more pleased to find my original conceptions of tropical butterflies realised to some extent in the Kwidschwi forest. Large wonderful *papilionidæ*, *nymphalidæ*, etc., fluttered in the moist sand on the edges of the rivulets which crossed our path and enchanted us with their glorious, delicate metallic gleaming colours (*Salamis macardii*), or their creamy velvety black wings decked with striking green or bronze golden hues (*Papilio phorcas* and *mackinnoni*). Others, again, offered exceptional interest through their strongly developed mimicry, like the common *Kallima rumia*, which, when resting on a branch with wings folded, is very difficult to distinguish from a dry leaf. In these spots, too, away from the native villages, the monkeys showed themselves less timid, so that, after all, we managed to secure a few of them without very much trouble. They were greyish-green in colour, with deep black heads and hands. Strange to say, they appeared to be identical with a variety (*Cercopithecus Stuhlmanni*), hitherto found only on Mount Ruwenzori. This was a curious coincidence, as the Ruwenzori chain is two hundred kilometres distant from Lake Kiwu, and separated from it by a region exhibiting entirely different conditions of life from the slopes of Ruwenzori and the islands and banks of Lake Kiwu.

One day the pygmies came into camp bringing their booty, a live, full-grown male monkey. They had carefully shut it into a hastily woven basket. Our attempt to keep the animal alive failed through its savageness. It behaved in a most furious manner, and, attached to the cord which we had placed round its hips, it made such mad leaps and dashes that it injured itself internally and died. Unfortunately we were unable to learn how the Batwa had caught him. One could not ascertain anything from them by direct methods. Tamate maintained that they teased the monkeys by yells and noises and arrow-shots from tree to tree, until they sprang to the earth and could be captured. One day, when returning to camp, I heard

loud noises going on in the forest, which my people said were being made by the Batwa hunting the monkeys. Yet I am unable to give credence to the tale that these animals can be hunted down from their trees by means of noises, and fall in such a state of exhaustion that they allow themselves to be caught in nets. I am more inclined to think that the loud cries of the hunters are intended to drive the animals into traps and snares previously set up.

Our stay at Kwidschwi came to an end sooner than we could have wished. We should have had plenty of material to work upon even if we had remained there for many weeks, or even months. But the comprehensive programme which was awaiting us in the volcanic region did not permit of our remaining more than fourteen days amongst the islands of Lake Kiwu. We parted most unwillingly from this paradise. Even though our daily labours were rendered onerous through the toils and hardships encountered in penetrating the dense forest, we were richly compensated by our spoils. And then, too, the agreeable climate was exhilarating to a high degree. Our Celsius thermometer registered 20 to 25 degrees at noonday, and the nocturnal cold, from which we had to suffer bitterly at times elsewhere, was lessened by the vicinity of the great stretch of water. At night, after our meal, we used to sit a long time in front of our tents, chatting over the day's events, or lost in thoughts of our distant home. The letter which follows, written by one of our number on his receiving news by the European mail informing him of the approaching wedding of a lady relative, which news, as chance had it, reached Kwidschwi on the very wedding-day, gives some little idea of the beauties of a tropical night and the mood it calls forth.

"I received your letter just in time to avoid letting Käthe B——'s wedding-day pass by unwittingly. We will hold a banquet this evening in a *salon*, in contrast with which the 'Kaiserhof,' or wherever else you may be celebrating the fête, in Berlin would pale. Our *salon* is tremendously broad. It is

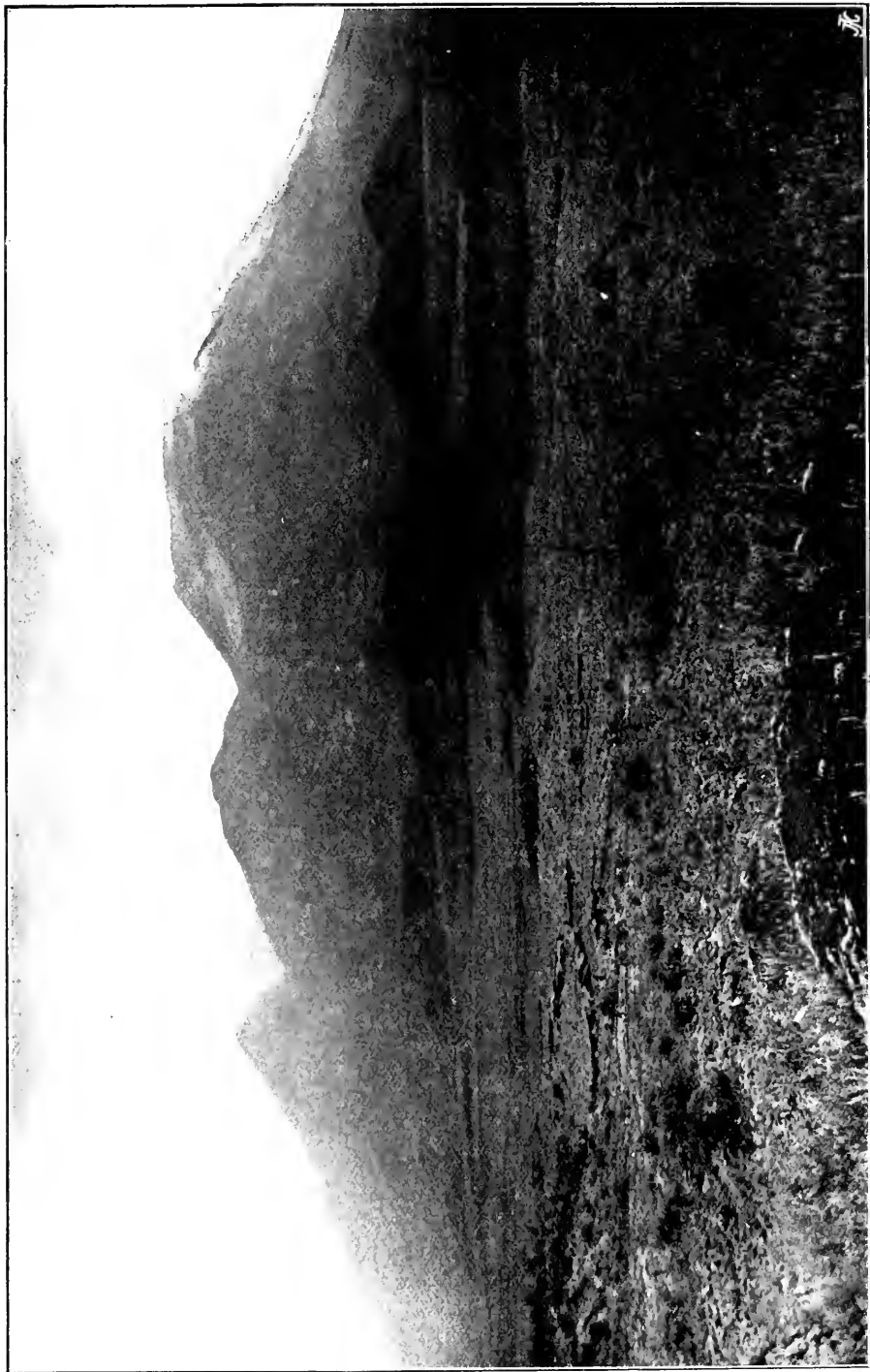


bounded by the blue Congo mountains, ten kilometres away, on the west, and yet which appear so close in the rarefied air that it seems one could almost touch them. Before us to the east and north our eyes rest on the dark primeval forest of the island through which we, the first Europeans to do so, have roamed during the past six days. The boughs of a mighty acacia tree form a beautiful canopy over our heads under the deep blue African heavens, and leave a gap just large enough for the moon to shine through and illuminate our festive board. By a lucky coincidence the moon is very nearly full to-day, and she shines as I have seen her do only on very cold nights at home. We have music also, certainly not in the shape of a Hungarian band, but one scarcely inferior. Myriads of little crickets and grasshoppers, sitting in the reed-beds along the banks of the lake, strike up a concert as if hosts of tiny smiths were smiting anvils with silver hammers in the womb of the earth. So I would not exchange the glorious African splendour for the gaieties of Berlin. It is only the friends feasting there whom I would dearly like to see. Possibly one or other amongst them may now and then give a fleeting thought to the most distant corner of the Dark Continent. Wishes for their constant well-being shall be rung from our goblets to-night, which, although only made of enamelled tin, shall be filled with good Moselle. But in particular we will drink to the bridal pair, for whom we wish to-day to be a day of joy and the beginning of the highest happiness. Menelik, our mess boy, has just come up and called out, "*Chakula tajari*" ("Dinner is ready"). We are to have soup with vegetables, baked Kiwu perch, and wild duck. Then butter and cheese, coffee and cigars. Not at all a bad bill of fare."

That was our last evening on the island of Kwidschwi, and a right merry one it was. The charms of the tropical night combined with the "Brauneberger" to unloose the tongue of our quiet botanist, and betrayed him into pouring out generous effusions from his rich store of poems. When at length we retired to

rest—long after midnight—we still heard ringing from his tent the refrain :

*“Füllest wieder Busch und Tal  
Still mit Nebelglanz,  
Lösest endlich auch einmal  
Meine Seele ganz.”*



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